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DECLARATION OF STANLEY M. BESEN, PADMANABHAN SRINAGESH, AND JOHN R. WOODBURY

AN ECONOMIC ANALYSIS OF THE PROPOSED BELL ATLANTIC/GTE MERGER

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1. Introduction and Conclusions

In reviewing the Bell Atlantic/NYNEX merger, the Federal Communications Commission concluded that reducing the number of independently controlled large Incumbent Local Exchange Carriers (ILECs) will require "future applicants [to] bear an additional burden in establishing that a proposed merger will, on balance, be procompetitive and therefore serve the public interest, convenience, and necessity."[1] As demonstrated in this and the accompanying declarations, Bell Atlantic and GTE have not established that their proposed merger will be procompetitive and serve the public interest, convenience, and necessity.

This Declaration and the accompanying declarations by Dr. John B. Hayes,[2] Professors Michael L. Katz and Steven C. Salop,[3] and Professor Joseph Farrell and Dr. Bridger M. Mitchell[4] analyze the competitive effects of the proposed merger of Bell Atlantic and GTE. These analyses show that the anticompetitive effects of the proposed Bell Atlantic/GTE merger are likely to be significant. They also show that the expansion in service offerings the merging parties claim the merger would

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[1] *In the Applications of NYNEX Corporation and Bell Atlantic Corporation for Consent to Transfer Control of NYNEX Corporation and Its Subsidiaries*, Memorandum Opinion and Order, FCC 97-286, File No. NSD-L-96-10, released August 14, 1997 (henceforth Merger Order), Para. 16.

[2] Declaration of John B. Hayes, "Market Power and the Bell Atlantic-GTE Merger," November 23, 1998 (henceforth Hayes Declaration).

[3] Declaration of Michael L. Katz and Steven C. Salop, "Using A Big Footprint to Step on Competition: Exclusionary Behavior and the SBC-Ameritech Merger," October 14, 1998 (henceforth Katz and Salop Declaration).

[4] Declaration of Joseph Farrell and Bridger M. Mitchell, "Benchmarking and the Effects of ILEC Mergers," October 14, 1998 (henceforth Farrell and Mitchell Declaration).

produce could occur without the merger. On the basis of these analyses, we conclude that the proposed merger is likely to harm competition and consumers, and thus is contrary to the public interest.

The principal conclusions of our analyses are the following:

- Bell Atlantic and GTE possess market power in the sale of local exchange and exchange access services and are likely to retain that power for some time to come.
- The merger would eliminate Bell Atlantic and GTE as potential LEC entrants into each other's service territories.
- An interLATA strategy implemented by the combined Bell Atlantic/GTE would be accompanied by *even greater* anticompetitive harm than would similar strategies implemented independently by Bell Atlantic and GTE. These harms would be felt in those (downstream) markets, such as the market for local calls or the market for interLATA calls, where rivals must rely on essential facilities provided by Bell Atlantic and GTE and on their ability to interconnect with Bell Atlantic and GTE customers. The proposed merger would increase both the incentives and the ability of the combined entity to exploit its control over essential facilities to disadvantage its rivals. Moreover, even if Bell Atlantic/GTE were to satisfy Section 271 conditions, it would still retain the ability to disadvantage rivals. Finally, imposing conditions on the merged entity to deal with these competitive concerns would be ineffective, as demonstrated by Bell Atlantic's failure to meet

the conditions imposed by the Commission in approving the Bell Atlantic/NYNEX merger.

- The merger would impair the ability of regulators to use industry benchmarks to determine whether an incumbent firm is discriminating against rivals while, at the same time, increasing the need for such regulatory supervision.
- The putative benefits from combining the assets of Bell Atlantic and GTE could be obtained without the merger. In particular, GTE is not limited to offering its new telecommunications services in areas that are proximate to its existing service territories in attempting to achieve the scale necessary for successful operation. Moreover, GTE is not limited to offering these services to Bell Atlantic customers, nor does the merger create any significant advantages to GTE in competing for those customers unless Bell Atlantic unfairly favors GTE. Similarly, Bell Atlantic faces no barriers in competing for business customers that are located in or proximate to areas currently served by GTE.
- The claim that the merger will "add another competitor to the small number of firms able to meet the growing demand for 'seamless' full-service offerings across far-flung distances"[5] is not credible because Bell Atlantic cannot offer in-region long-distance service in the absence of significant local competition. If the merging parties' contention that there will not be large-scale local entry in the

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[5] In the Matter of GTE Corporation, Transferor, and Bell Atlantic Corporation, Transferee, For Consent to Transfer of Control, Application for Transfer of Control, Public Interest Statement (henceforth Public Interest Statement) October 2, 1998, p. 9.

near term is true, the merged firm will not be able to satisfy the demand for "seamless" service for some time.

The analyses supporting these conclusions, some of which summarize the analyses contained in the accompanying declarations, are presented below. Section 2 summarizes Dr. Hayes' analysis of the markets for local exchange and exchange access services, and concludes that Bell Atlantic and GTE are dominant providers in their geographic markets. Moreover, given the limited scope of actual entry and the announced plans of potential entrants, it is evident that Bell Atlantic and GTE will remain dominant for some time to come, and will retain control of the essential facilities from which they derive their ability to harm competition. Section 3 explains why the merger would eliminate Bell Atlantic and GTE as potential local exchange entrants into each other's service territories.

Section 4 draws on the analyses of vertical foreclosure by Professors Katz and Salop. On the basis of these analyses, we conclude that the proposed merger would increase the incentives and ability of Bell Atlantic and GTE to harm competition in the supply of local and interexchange services and the consumers of these services.

Section 5 summarizes the conclusions of Professor Farrell and Dr. Mitchell regarding the impact of the merger on the ability of regulators to rely on industry benchmarks to evaluate the behavior of ILECs. It explains why the merger would make it more difficult for both federal and state regulators to employ either average industry performance or best practices as yardsticks against which to compare the

behavior of ILECs. The merger would also reduce the ability of regulators to engage in heightened scrutiny of "worst practices."

Section 6 analyzes the claimed benefits of the merger and concludes that these claims are unwarranted. Section 7 summarizes the results of all of these analyses and concludes that the merger would not be in the public interest and therefore should not be approved.

2. Market Power in Local Exchange and Exchange Access Markets

If the provision of local exchange and access services were competitive, the merger's likely anticompetitive effects, as described by Professors Katz and Salop and by Professor Farrell and Dr. Mitchell, would not be of antitrust significance. However, the proposed merger of Bell Atlantic and GTE raises significant antitrust concerns because the merging parties control essential facilities that are required to produce a range of communications services, including competitive local services, interexchange communications services, and combinations of such services. In his Declaration, Dr. Hayes concludes that Bell Atlantic and GTE possess market power in the sale of local exchange and exchange access services, and are likely to retain that power for some time to come.[6]

In particular, Dr. Hayes considers the relative position of ILECs as measured by their share of switched access lines within states served by Bell Atlantic (District of Columbia, Delaware, Massachusetts, Maine, Maryland, New Hampshire, New

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[6] Hayes Declaration, Para. 6 and Section IV.

Jersey, New York, Pennsylvania, Rhode Island, Virginia, Vermont, and West Virginia) and GTE (California, Florida, Hawaii, Illinois, Indiana, Kentucky, Michigan, North Carolina, Ohio, Oregon, Pennsylvania, Texas, Virginia, Washington, and Wisconsin). On average, the ILEC in these states accounts for about 99% of switched access lines. Dr. Hayes also considers the position of the ILECs as measured by their share of switched local service minutes of use; in 10 Bell Atlantic states, Bell Atlantic's share of switched minutes ranges from 97.3% in New York to 100% in New Hampshire. In 26 GTE states, GTE's share of switched minutes averages 98.7% and the share is never less than 95.9%. These statistics indicate that the Bell Atlantic and GTE territories have not been subject to substantial CLEC entry. Moreover, according to Hayes, "[t]he unbalanced origination and termination minutes exchanged between ILEC and CLEC networks suggest that CLEC sales are concentrated in a limited market segment, an inference that provides a reason to be cautious about predicting CLEC success in a broader local service market. Additional analysis is needed to understand why CLECs have been especially successful in this market segment."[7]

While these shares are evidence of the continuing dominance of Bell Atlantic and GTE, the shares may nonetheless understate that dominance since they include resale of the ILEC's service by CLECs. As Dr. Hayes points out, "[b]ecause resale rates are not based on the underlying costs of the facilities, resale

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[7] Hayes Declaration, Para. 18.

competition can do relatively little to drive retail rates down towards cost. Facilities-based competitors also represent alternative sources of access services, while resellers do not serve this function."[8] If resold lines are "counted" as part of the ILECs share of local exchange lines in six Bell Atlantic states (District of Columbia, Delaware, Maryland, New Jersey, Pennsylvania, and Virginia), the ILECs average share of residential lines exceeds 99.9% and the ILECs average share of business lines is 99.3%.[9]

Equally important, Dr. Hayes observes that CLEC facilities in the Bell Atlantic and GTE regions are almost always concentrated in major urban areas and serve large business customers. Thus, while there may be growing competition for large businesses, that competition has yet to increase the rivalry for other businesses and for residential services.

Finally, the failure of any of the ILECs to be found in compliance with Section 271 of the Act suggests that the opening of local exchange markets to competition is not likely to occur in the near term. Given the incentives that the ILECs have to discourage emerging local competition, Dr. Hayes concludes that "the need for on-going regulation would not soon end."[10]

In sum, the Commission cannot rely on either the current degree of competition with the ILEC or the development of near-term competition to eliminate

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[8] Hayes Declaration, Para. 20, footnote omitted.

[9] Hayes Declaration, Para. 22.

[10] Hayes Declaration, Para. 29.

the heightened incentives that a combined Bell Atlantic/GTE would have to discourage local exchange and interexchange competition. Further, the combination would reduce the efficacy of the Commission's benchmark regulation.

3. The Merger Would Eliminate Bell Atlantic and GTE as Potential Local Exchange Entrants Into Each Other's Service Territories

The proposed merger would eliminate Bell Atlantic as a potential local exchange entrant into GTE's service territories and GTE as a potential local exchange entrant into Bell Atlantic's service territories. Bell Atlantic and GTE have claimed that the elimination of each as a potential entrant into the service territories of the other would not adversely affect consumers because there are so many other potential entrants into the supply of local exchange service. However, because they possess a number of important competitive advantages, the merging firms may well be among the most likely potential entrants. Moreover, despite the claims of the merging parties that "the actual potential-competition doctrine [is] at the outer reaches of competition law,"[11] potential entry should remain a concern of the Commission where, as here, an industry has only recently been opened to competitive entry.

First, both Bell Atlantic and GTE have extensive experience as suppliers of local services, including experience in the engineering, design, marketing, and operation of extensive local telephone networks serving all businesses and

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[11] Public Interest Statement, p. 26.

residences. Second, both possess fully functioning and time-tested Operations Support Systems (OSS) and billing systems that are critically important to the provision of local exchange and exchange access services. The significance of OSS has been most apparent in the Section 271 applications rejected by the FCC.

Third, both Bell Atlantic and GTE possess a clear marketing message based on scores of years of local service provision and brand names that are well known in adjacent service territories. Fourth, the geographic proximity of Bell Atlantic and GTE service territories in a number of geographic areas would allow each to take advantage of limited scope economies.

Finally, Bell Atlantic and GTE are likely to be particularly potent entrants because they have first-hand knowledge of the kind of input provisioning of which an ILEC is capable. If, for example, GTE were to attempt to impede Bell Atlantic's entry by claiming that a service demanded by Bell Atlantic could only be provided in a particularly costly way, Bell Atlantic would be in an excellent position to evaluate the validity of that claim by virtue of its own ILEC experience.

The claims of the merging parties that the Commission should give little weight to potential competition should similarly be rejected. Local exchange entry has only recently become possible. Thus, unlike situations in mature industries in which the absence of "a well-grounded finding that one of the merging firms 'in the near future' would, but for the merger, supply significant competition against the other that would not be forthcoming from other present or potential market

participants"[12] might militate against concluding that a particular firm is a potential entrant, here the Commission could quite reasonably make judgments about the likelihood of entry based on the advantages of rivals even in the absence of firm plans to enter.

Indeed, the parties themselves have called attention to such advantages when they describe GTE's plans for entry "into territory close to its own few urban franchise areas;"[13] note the ability of the combined firm "to compete more effectively for the business of a host of firms that have offices both in Bell Atlantic's region and near to GTE's franchise areas across the rest of the country;"[14] and claim that "GTE's lack of an adequate high-density customer base...has impaired its ability to roll out new services."[15] In judging the validity of these claims, the Commission must make a "well-grounded" finding that is no different from the finding it must make in determining whether the merging parties would be potential entrants into each other's service territories in the absence of the merger.

4. The Competitive Risks of the Bell Atlantic/GTE Merger to Interexchange and Local Exchange Markets Are Significant

As noted above, the merging parties claim that the most significant benefits for consumers will arise from their ability to offer the entire array of telecommunications

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[12] Public Interest Statement, p. 28.

[13] Public Interest Statement, p. 7.

[14] Public Interest Statement, p. 13.

[15] Public Interest Statement, p. 17.

services to its largest customers, including interLATA and local exchange services, and that small businesses and residential consumers will eventually benefit. This section explains why the merger would likely increase local exchange and interexchange rates above those that would prevail absent the merger.

ILECs, including Bell Atlantic and GTE, provide an array of "access" inputs (originating and terminating access, Unbundled Network Elements (UNEs), and the resale of the ILEC's local exchange service, among others) to IXCs, CLECs, and firms that offer both interexchange and local exchange services (combined service carriers or "CSCs"). In addition to selling inputs in this upstream market, the ILECs, either currently or prospectively, compete downstream with the IXCs, CLECs, and the CSCs for the patronage of retail customers, businesses, and residences.[16]

As Professors Katz and Salop explain, because ILECs like Bell Atlantic and GTE have market power in the sale of access inputs to their downstream rivals, they have the incentive and ability to disadvantage those downstream rivals by raising the price of these inputs. Because both the FCC and the states regulate interconnection prices, Bell Atlantic and GTE may also choose to deny, delay, or degrade the provisioning of inputs to their downstream rivals, thereby disadvantaging those rivals in their attempts to attract consumers. In their Declaration, Professors Katz and Salop explain that these anticompetitive incentives

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[16] It should be noted that Bell Atlantic is currently not permitted to provide in-region interLATA service, which would seem to preclude the merged company from implementing the strategy at this time.

are large and that the merger would heighten those incentives. What follows summarizes their analysis.

First, the ILECs generally, and Bell Atlantic and GTE in particular, likely have substantial market power in the supply of access inputs. For example, the current prohibition on RBOC provision of in-region interLATA communications is based on serious concerns that RBOCs can and will use their control of essential facilities to exclude, or discriminate against, competitors in the interLATA market. The rationale for this prohibition is clearly described in the history of the Telecommunications Act of 1996 and in the longstanding policy of the FCC to regulate access and interconnection services offered by ILECs.

The Telecommunications Act of 1996 (Section 271) recognizes the ability and the incentive of the RBOCs to leverage their control over essential local exchange facilities to behave anticompetitively in the long-distance market, and thus prohibits RBOCs from providing interLATA services within their regions until they are subject to some competitive discipline in the sale of access inputs.

Similarly, the Commission has clearly expressed ongoing concern with the potential that ILECs have to frustrate the growth of local exchange competition. For example, the FCC has noted that:

> Because an incumbent LEC currently serves virtually all subscribers in its local serving area, an incumbent LEC has little economic incentive to assist new entrants in their efforts to secure a greater share of that market. An incumbent LEC also has the ability to act on its incentive to discourage entry and robust competition by not interconnecting its network with the new entrant's network or by insisting on supracompetitive prices or other unreasonable

> conditions for terminating calls from the entrant's customers to the incumbent LEC's subscribers. [17]

In summary, the supply of access inputs is characterized by an absence of current and prospective competition.[18] Professors Katz and Salop conclude that, for the foreseeable future, ILECs such as Bell Atlantic and GTE will have the ability to disadvantage their downstream IXC, CLEC, and CSC rivals by denying, delaying, or degrading the provisioning of access inputs to them. The exclusionary behavior might result from (among other possibilities) decreasing the technical quality of interconnection or delaying the installation of new lines, the provisioning of UNEs or collocation cages, or the repair of the rival's leased facilities.

The principal effect of the merger would be to increase the control that a single entity has over access lines and other resources that are needed by the IXCs, CLECs, and the CSCs; as a result, the merger would threaten existing competition in IXC services and emerging competition in CLEC and CSC services.

If an ILEC can divert customers from its downstream rivals to its own service (local exchange service, interexchange service, or some combination), the ILEC gains the profit margin earned on customers that switch to it from its rivals. However, for every customer that it gains from its rivals, the ILEC loses the profits that it previously earned from the sale of inputs to them. If the downstream (retail) margin for an additional customer diverted to the ILEC exceeds the upstream

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[17] Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, First Report and Order, CC Docket Number 96-98, (August 8, 1998), Para. 10.

[18] Hayes Declaration, Para. 6.

(wholesale) margin from the sale of inputs to the rival, the ILEC has the incentive to divert customers from the rivals to itself.

For the CSC illustration used in their Declaration, Professors Katz and Salop calculate the monthly local and long-distance revenues generated by the average single-line business customer. They subtract from the revenues the ILEC's monthly costs of providing these services. The difference between the monthly revenues and costs is the retail margin captured by the ILEC for every customer shifted from a CSC to itself.

This retail margin gained on each subscriber diverted is then compared to the upstream margin on the sale of access inputs lost as a result of the diversion. Professors Katz and Salop assume that the CSC owns its own long-distance network, collocates the necessary equipment in the ILEC's central offices, connects the collocated equipment to its interexchange nodes using CAP transport, and purchases unbundled loops from the ILEC. The CSC's only incremental purchases from the ILEC are the unbundled loop.

Based upon the preliminary data available to them, Professors Katz and Salop conclude that the downstream (retail) margin exceeds the upstream (wholesale) margin by a considerable amount. Indeed, they calculate that this would be so even if a substantial fraction of the CSC's lost subscribers do not shift

to the ILEC.[19] Thus, in addition to having the ability to disadvantage its downstream rivals, the ILEC has the incentive to do so as well.

Recent decisions by State Commissions to deny petitions by RBOCs seeking to provide interLATA service in accordance with Section 271 of the Act provide concrete evidence of such incentives. For example, following hearings and her review of thousands of pages of evidence, a NYPSC Administrative Law Judge found that Bell Atlantic-New York had not met its burden of proof with respect to its Prefiling Statement, and noted both the difficulty in obtaining services and elements in a timely manner and the clear lack of OSS parity.[20] The same judge also recently found that "as a matter of fact on this record" that none of BA/NYNEX's proposed UNE combination methods constitute a nondiscriminatory form of obtaining and combining unbundled elements.[21] The affidavit filed with the New York Public Service Commission on September 28, 1998, by Michael Nelson explains some of the problems that Sprint has encountered reselling Bell Atlantic's local service.[22] These problems include OSS variances from national standards and Sprint's

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[19] Katz and Salop Declaration, Paras. 52-53.

[20] See New York Public Service Commission, Case 97-C-0271, *Petition of New York Telephone Company for Approval of Its Statement of Generally Available Terms and Conditions and Draft Filing of Petition for InterLATA Entry,* Ruling Concerning the Status of the Record, Issued July 8, 1997.

[21] New York Public Service Commission, Case 98-C-0690, *Proceeding on Motion of the Commission to Examine Methods by which Competitive Local Exchange Carriers can Obtain and Combine Unbundled Network Elements*, Proposed Findings of Administrative Law Judge Eleanor Stein, August 4, 1998 at 10.

[22] See Affidavit of Michael J. Nelson, attached to Comments of Sprint Communications Company, L.P., State of New York Public Service Commission, Case 97-C-0271, September 28, 1998 (henceforth Nelson Affidavit).

receiving first quarter 1998 performance measurements upon request, both of which are contrary to the conditions imposed by the FCC in connection with its approval of the Bell Atlantic/NYNEX merger. None of the RBOCs has yet succeeded in obtaining approval for a Section 271 application.

In addition, rivals continue to contend that ILEC behavior impedes their entry. For example, AT&T asserts that:

> The recurring and nonrecurring rates for unbundled elements proposed by Bell Atlantic in Delaware, the District of Columbia, Maryland, New Jersey, Pennsylvania, Virginia, and West Virginia are not TELRIC compliant. They do not reflect the costs of efficiently providing unbundled elements, but rather purport to reflect the cost of providing unbundled elements using Bell Atlantic's existing network design and operating practices. Moreover, the values proposed for the specific inputs identified herein are all well in excess of forward-looking economic costs and reflect embedded costs, and/or inefficient network design and operating practices. By proposing prices for network elements (and combinations thereof) that are not based on forward-looking, economic costs, Bell Atlantic has thus violated the pricing conditions that the Commission imposed for approval of the Bell Atlantic/NYNEX merger.[23]

Similarly, MCI maintains that:

> Bell Atlantic has now proposed interconnection rates in Pennsylvania, New Jersey, Delaware, West Virginia, Maryland, Virginia, and the District of Columbia. Bell Atlantic's rate proposals have followed essentially the same approach in each of these states. That approach is emphatically not TELRIC. Instead, Bell Atlantic's pricing models improperly inflate the costs of network

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[23] Complaint of AT&T Corp., *AT&T Corp. vs. Bell Atlantic Corp.*, November 10, 1997 (received), Para. 83.

> elements, often by including both Bell Atlantic's embedded costs and costs attributable to inefficient network operations and technology. [24]

While this behavior is consistent with the view that the ILECs have adopted strategies to disadvantage their downstream rivals, the extent of exclusionary behavior is likely to increase, perhaps substantially, if the Bell Atlantic/GTE merger is approved. Specifically, the merger would increase the incentive for exclusionary behavior by permitting the internalization of important anticompetitive spillovers and, by so doing, would increase the incentive and ability of Bell Atlantic/GTE to engage in such behavior.

For example, suppose that Bell Atlantic currently provides terminating access to GTE's long-distance affiliate as well as to other IXCs.[25] In addition, suppose that, absent the merger, Bell Atlantic were to impair the quality of terminating access to all IXCs, except for GTE's long-distance affiliate. As a result, GTE would gain an artificial competitive advantage, and some customers who would otherwise have subscribed to another IXC instead would subscribe to GTE's long-distance service.

Before the merger, Bell Atlantic has no incentive to consider the benefits that its exclusionary behavior generates for GTE. After the merger, however, Bell

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[24] Complaint of MCI Telecommunications Corporation and MCImetro Access Transmission Services, Inc., *MCI Telecommunications Corp. and MCImetro Access Transmission Services, Inc. vs. Bell Atlantic Corp.*, December 19, 1997, Para. 15, footnote omitted.

[25] For its long-distance service, the CSC is likely to require terminating access in both Bell Atlantic's and GTE's territories.

Atlantic would take the spillover effects on GTE's profits into account, and thus would have a greater incentive to degrade interconnection to other IXCs.

Similarly, the merger would likely increase the incentives for Bell Atlantic to engage in exclusionary behavior towards CLECs and CSCs. This occurs because there may be scale and scope economies attained by a CLEC or CSC operating in multiple markets. If this type of carrier is competitively harmed in one market, its ability to compete in other markets is reduced. When Bell Atlantic successfully engages in exclusionary behavior towards these competitors, it raises their costs or reduces their service quality in Bell Atlantic's service territory. But as a result of the exclusion, the competitors' ability to attract customers in other geographic areas may also be impaired. Indeed, the linkages across markets may be sufficiently strong that a CLEC or CSC that experiences harm in one market may not find it profitable to enter any market.

As one example, the higher costs or degraded service quality imposed on a CLEC in Bell Atlantic's territory will result in the CLEC obtaining fewer customers in Bell Atlantic's territory than it would otherwise attract. As a result, the CLEC may engage in less national advertising or invest less in upgrading its service quality than otherwise, and will be a less aggressive competitor in other geographic areas, which would likely include the GTE territory. GTE will then experience less competition and greater profits.

As another example, there may be functionality on the CSC's network that is only available to its customers. Like many other telecommunications services, the

value to any particular customer of the functionality may increase as the number of other CSC customers with that functionality increases. Thus, the more customers a CSC can attract, the greater the value of the CSC to each customer. In this case, if Bell Atlantic disadvantages the CSC in its own territory, the CSC captures fewer customers and its service becomes less attractive to potential subscribers in GTE's territory too.

In these examples, Bell Atlantic's exclusionary behavior generates a spillover benefit for GTE. A merger between Bell Atlantic and GTE would internalize this anticompetitive spillover and increase the incentives for exclusionary behavior. Absent the merger, Bell Atlantic does not share in any of the additional profits that its exclusionary behavior generates for GTE. With the merger, however, Bell Atlantic would take these additional profits into account in choosing the extent of its exclusionary conduct. The amount of exclusion would be higher because of the additional profits earned by GTE. Thus, the merger would likely increase the harm to competition in the market for local services.

In addition to increasing the incentives for exclusionary behavior, the merger would increase the ability of Bell Atlantic/GTE to engage in such conduct against its rivals. As discussed by Professor Farrell and Dr. Mitchell, the regulator's ability to detect exclusionary behavior would be reduced because there would be one fewer firm against which Bell Atlantic's behavior could be gauged. Thus, there would be greater uncertainty about the extent to which deviation from (say) some average measure of performance is a statistical aberration or indicates exclusion. Moreover,

because the post-merger Bell Atlantic/GTE would now be a larger component of any calculated average measure, the average measure itself would worsen, providing the merged firm with greater scope to engage in exclusionary behavior. In addition, the declining average would increase the scope for exclusionary conduct for other ILECs as well, another anticompetitive spillover effect from the merger. The usefulness of the benchmarks would deteriorate even further if the recently proposed SBC/Ameritech merger were approved, providing Bell Atlantic/GTE with even greater scope for conduct that harms competition.

It is also important to observe here that conditioning approval of the merger on an agreement by the parties to accept certain obligations in their dealings with rivals is unlikely to alleviate these competitive concerns. Indeed, Sprint apparently continues to experience considerable difficulty in obtaining services from Bell Atlantic despite the company's obligation to provide these services under the terms of the FCC's approval of the Bell Atlantic/NYNEX merger.[26]

4.1 Hazlett's Results Are Consistent with Exclusion

The merging parties have presented a Declaration by Professor Thomas Hazlett that they claim provides evidence that "investors viewed the merger not as creating or maintaining market power but, to the contrary, as creating significant new competition to AT&T, MCI WorldCom, Sprint, and SBC/Ameritech."[27] Hazlett claims

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[26] See Nelson Affidavit.

[27] Public Interest Statement, p. 6, footnote 2.

to find that "the stock market reactions by the four major BA/GTE competitors to the July 28, 1998 merger announcement reveals little evidence that a decrease in competition was the likely result of the merger. All competitors exhibit negative unadjusted returns over all windows."[28] Hazlett interprets this "as strong evidence that rational investors do not believe that the Bell Atlantic merger with GTE will increase prices for telecommunications customers. The reverse interpretation – that the merger is seen as increasing competitive rivalry – is the most reasonable conclusion."[29]

Even if one accepts Hazlett's empirical evidence at face value, his interpretation of that evidence does not follow. Hazlett has implicitly treated Sprint, AT&T, MCI WorldCom, and SBC/Ameritech as solely *horizontal* rivals to the merged entity. Thus, he interprets the reduction in the share prices of those firms in response to the merger as evidence that they would face additional competition from a stronger Bell Atlantic/GTE. However, Hazlett's interpretation completely ignores the *vertical* relationships between these firms and Bell Atlantic/GTE. Bell Atlantic and GTE are suppliers of essential inputs to Sprint, AT&T, MCI WorldCom, and SBC/Ameritech. Because the proposed Bell Atlantic/GTE merger would increase the incentive and ability of the combined firm to disadvantage its rivals, these rivals are likely to be made worse off by the merger. Thus, Hazlett's finding that the share prices of rival firms declined after the merger was announced is

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[28] Declaration by Thomas W. Hazlett, Para. 6.

[29] Id.

entirely consistent with the type of analysis described by Professors Katz and Salop, which shows that, after the merger, the combined entity would increase the extent to which it attempts to foreclose rivals. If investors expect foreclosure to increase as a result of the merger, this expectation would lead to declining stock market values of these rivals, now made more vulnerable to anticompetitive behavior by the merged entity.

5. The Effect of the Proposed Merger on Benchmarking

Regulatory policy generally, and the implementation of the Telecommunications Act of 1996 in particular, requires the Federal Communications Commission to reach complex decisions regarding, for example, the pricing of unbundled network elements and the quality of network access. In making such decisions, the Commission inevitably faces a critical, pervasive problem: incomplete information about the true costs and capabilities of the regulated firm.[30] In order to overcome this problem, the Commission and state regulators can and do use comparisons of one RBOC's costs, and other measures of performance, with those of other RBOCs and comparably sized LECs. The Bell Atlantic/GTE merger would reduce the quantity and quality of such information that is available to regulators and, therefore, their ability to employ "benchmarking" as a regulatory tool.[31] This would occur because the merger would further reduce the already small number of

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[30] See Farrell and Mitchell Declaration, esp. Section I.C.

[31] The effect would obviously be even greater if both the Bell Atlantic/GTE and SBC/Ameritech mergers were to be approved.

RBOCs whose performance can be used to gauge the performance of any particular RBOC (or other comparably sized ILEC). This section summarizes the Declaration of Professor Joseph Farrell and Dr. Bridger M. Mitchell, which analyzes the impact of the proposed merger on the ability of regulators to rely on benchmarking as they implement procompetitive public policies. Farrell and Mitchell explain the various forms that benchmarking may take and provide an extensive set of examples of their use by telecommunications and other regulators.

5.1 Average-Practice Benchmarking

In average-practice benchmarking, a regulator uses an industry average to determine a maximum price, a minimum quality standard, or some other performance measure for a regulated firm.[32] In setting a maximum price benchmark (i.e., price caps), or determining customer revenue per line for high-cost support plans, for example, each regulated firm only partially determines the industry average. As a result, only a fraction of the cost savings or revenue increases achieved by one firm will be reflected in the subsequent period's industry average. This allows the firm to retain a portion of the reward for its innovations and provides the firm with an incentive to innovate.

Average-practice benchmarks typically are based on information from several comparably sized and similarly situated firms. The process of averaging serves to

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[32] See Farrell and Mitchell Declaration, Section II.A., for a discussion of the use of average-practice benchmarking.

overcome the "noise" in individual observations, thereby permitting the regulator to be more confident about the benchmark used to judge any individual firm's performance.

Farrell and Mitchell identify a number of important examples in which average-practice benchmarking has been used by regulators. The best known example involves the use by the FCC regulators of estimates of average industry productivity improvements in setting price cap formulas. More recently, the FCC has indicated that it will use average revenue per residential line in computing the appropriate universal service subsidies in high-cost areas.

5.2 Best-Practice Benchmarking

In best-practice benchmarking, regulators seek to identify best practices in an industry and induce the firms they regulate to adopt these practices.[33] Best-practice benchmarking may be used either for qualitative characteristics, such as determining whether an ILEC should make available particular forms of interconnection or access to particular network elements, or quantitative characteristics, such as regulating the level of pricing for services used by competing carriers. Farrell and Mitchell note that ILECs often differ in the choices they make, very possibly because they have different attitudes toward cooperation.

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[33] See Farrell and Mitchell Declaration, Section II.B., for a discussion of the use of best-practice benchmarking.

Consequently, observing this diversity of practices and requiring all ILECs to follow the best practice can significantly improve industry performance.[34]

Farrell and Mitchell cite a large number of examples of the use by regulators of best-practice benchmarking. A graphic example involves the FCC's use of Ameritech's willingness to employ the Location Routing Number (LRN) method of implementing local number portability. After Ameritech demonstrated the feasibility of LRN, the Commission required that other ILECs employ the same method. As another example, the Commission concluded that interconnection or access to a particular point on a LEC network is evidence of the technical feasibility of providing the same or similar interconnection in another ILEC network. As a final example, relying on the observation that US West currently offers cageless collocation and that SBC permits CLECs to share collocation space, the Commission has requested comments to determine whether such arrangements should be presumed to be technically feasible at other LEC premises.

5.3 "Heightened Scrutiny for Poor Performance" Benchmarking

Regulators also may use comparative data to identify problem cases.[35] ILECs may then use such information to identify sub-standard performance by ILECs, and regulators may subsequently require improved performance or impose sanctions on those firms. This should both directly improve performance of

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[34] Farrell and Mitchell Declaration, Section II.B.

[35] See Farrell and Mitchell Declaration, Section II.C., for a discussion of the use of this type of benchmarking.

individual ILECs and provide incentives for them to avoid poor performance that eventually would be detected.

Farrell and Mitchell report that the FCC has used "heightened scrutiny for poor performance" in disallowing some ILECs' high charges for physical collocation services, in assessing the overhead rates imposed by ILECs in providing interconnection, and in determining whether the penetration ratios for non-primary ILECs correctly represented residential lines in assessing access charges. The authors also note that the Department of Justice has employed this form of benchmarking in assessing the reasonableness of the speed with which RBOCs had complied with their equal access requirements.

5.4 The Impact of the Merger on Benchmarking

Farrell and Mitchell discuss the effects of mergers on benchmarking under three headings. First, they demonstrate that there are adverse effects even ignoring the effects of mergers on the incentives of the firms. Next, they analyze the adverse unilateral incentive effects on the performance of firms subject to benchmarking. Finally, they examine the increased likelihood of coordinated effects as the result of mergers.

Loss of Information Effects. When a merger leads to more aggregated reporting, the Commission observes less diversity in ILEC practices and loses valuable information that it would otherwise have available for use in establishing performance benchmarks. In many cases, the merged firm may adopt a common practice for pricing of services and supplying network components. Even when the

merged firm reports company-by-company results, the data can be less useful than information obtained from independent firms.

Farrell and Mitchell consider the likelihood that at least one ILEC will report a practice that is cooperative with competitors. They find that mergers of large ILECs significantly reduce the probability that such a favorable practice will be observed even if the mergers had no incentive effects. Similarly, the reduced diversity in observed ILEC practices increases the uncertainty inherent in using a benchmark to determine, for example, whether to disallow some ILECs' direct costs of collocation services.

Unilateral Effects. The establishment of regulatory benchmarks effectively creates 'competition by comparison' between firms that do not directly compete with each other in the same geographic markets.[36] This form of competition is akin to product market competition in one important respect. A merger between firms that are not actual or potential competitors in any product market may nonetheless create incentives for unilateral and coordinated actions that harm consumers.

Under average-practice benchmarking, a merged firm will have a larger weight in the computed industry-wide average, and its decision to undertake a cost-saving innovation will have a larger impact on the industry-wide average that regulators will use in the future as a yardstick. Indeed, in its Bell Atlantic/NYNEX Order, the Commission itself expressed concern that the merger would increase the

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[36] Farrell and Mitchell Declaration, Section III.

relative weight of each company's actions on average performance, and that that increase would adversely affect the incentives of the merged firm to become more effective.[37]

In addition, the Bell Atlantic/GTE merger would likely result in the merged firm's adopting common practices or uniform standards. If this were to occur, there would be (at least) one fewer independent, firm-specific observation available to regulators in computing the industry-wide average. Such a loss of information handicaps regulators. For example, regulators would inevitably be less confident in identifying unusually poor performance or concluding that it is unreasonable. With poorer information, regulators might have to accept poorer performance.[38]

Under best-practices benchmarking, if the practice that GTE by itself would prefer were to reduce the profits of Bell Atlantic, after the merger, GTE would account for that fact in deciding whether to adopt the practice. If there were numerous, equally situated ILECs, the effect of this would be small. However, the number of independent observations would fall from five to four as a result of the merger, so the adverse incentives would likely be large.[39]

Coordinated Effects. Farrell and Mitchell conclude that substantial decreases in the number of large ILECs can significantly increase the threat that ILECs will develop a common understanding on such issues as cooperating with competitors

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[37] Merger Order, Para. 150.

[38] Farrell and Mitchell Declaration, Section III.C.

[39] The proposed merger between SBC and Ameritech would reduce this number further.

and avoid "breaking ranks."[40] One reason is that a reduction in the number of players reduces the probability that one or more will want to be a maverick. In addition, an ILEC considering whether to forego an action it individually would prefer, but that also would break a united front that would be valuable on another issue, must consider whether its action would provoke a break in the united front. Because the probability that the united front would break down in any event will decrease as the number of players falls, a merger makes it more likely that the ILEC would choose to sacrifice its preferred position in order to avoid breaking ranks. In this way, the merger reduces the efficacy of best-practice benchmarking. Indeed, in reviewing the Bell Atlantic/NYNEX merger, the Commission concluded that reducing the number of Bell Companies makes it easier to coordinate actions among them.[41]

5.5 Traditional Benchmarking Will Continue to be Needed

Bell Atlantic Vice Chairman Ivan Seidenberg claimed at the FCC Merger En Banc hearing that "[t]he old ones [benchmarks] don't work anymore because you can't compare the future industry by looking in the rear-view mirror of companies that used to be incumbents that are no longer incumbents...we need to create the kind of benchmarks around five or six global players."[42] Seidenberg reiterated that view in an exchange with Commissioner Ness.[43] Although it is not entirely clear

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[40] Farrell and Mitchell Declaration, Section III.B.

[41] Merger Order, Para. 11.

[42] In re FCC Merger En Banc, October 22, 1998, pp. 74-75.

[43] In re FCC Merger En Banc, October 22, 1998, pp. 86-87.

what is meant by the claim that new benchmarks are needed, it cannot mean that the Commission should abandon its practice of using the performance of individual ILECs across the industry as yardsticks. Whatever may happen in the future, it is clear that, for a long time to come, the ILECs will continue to dominate the local exchange market and CLECs, IXCs, and CSCs will continue to require the ILECs' cooperation in order to compete effectively. In these circumstances, the ability of the FCC to employ traditional forms of benchmarking remains an indispensable regulatory tool. Both the proposed Bell Atlantic/GTE and SBC/Ameritech mergers would weaken that tool.

Alternatively, Vice Chairman Seidenberg might be claiming that the traditional industry structure, with ILECs confined to particular geographic areas, is evolving into one in which fewer and larger carriers serve overlapping areas. Although this may be the case – it is difficult to be certain that it is – it does not follow that the Bell Atlantic/GTE merger, or any other ILEC merger should be permitted. If some ILECs expand the geographic reach of their operations and others contract, leaving fewer large telecommunications carriers, that might reflect superior efficiencies of large size. That is, the competitive process might reveal that large size permits lower prices and/or improved service if larger firms are able to attract customers from small ones.[44] That market test does not occur, however, if growth occurs through merger and especially if, as is the case here, the merged firms have increased

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[44] We say "might" because the market test is a flawed one if large firms grow larger simply because they can deny critical inputs to their smaller competitors.

incentives and ability to deny rivals access to critical inputs. In short, although Vice Chairman Seidenberg's prediction about the future industry structure may be correct, that does not justify short-circuiting the process by which that new market structure evolves.

6. The Merger Is Not Needed to Obtain the Benefits That Are Claimed For It

An important public interest benefit that has been claimed for the proposed Bell Atlantic/GTE merger is that it would permit the merged entity to offer telecommunications services (local exchange, long-distance, high-speed data, and others), either in bundles or separately, in 21 markets outside the Bell Atlantic and GTE service territories to large business customers with headquarters within the Bell Atlantic service territory.[45] The parties claim that these "anchor tenants" would form a nucleus around which they would build a broader customer base. Specifically, the parties claim that:

> GTE's merger with Bell Atlantic will make it possible for the combined company to enter a large number of new local markets by allowing it to build on *Bell Atlantic's* existing account relationships with large businesses.[46]

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[45] Public Interest Statement, pp. 4-7. It is important to observe that the merged company "plans" to enter these markets but is not committed to do so if the merger is approved.

[46] Declaration of Jeffrey C. Kissell (henceforth Kissell Declaration), Para. 7, emphasis added.

Thus, Bell Atlantic and GTE appear to claim that the merger is essential to the pursuit of the 21-market strategy because, on its own, neither firm could profitably enter markets outside of its region to offer these services.[47]

The benefits that are claimed for the merger result largely from the marrying of GTE's capabilities and Bell Atlantic's customer base. First, it is claimed that the merger is required to permit GTE to expand the potential market for its long-distance and Internet services to include customers that are headquartered in Bell Atlantic's service territory and that have operations in GTE's service territory or are located close to GTE's proposed Global Network Infrastructure (GNI). Second, it is claimed that Bell Atlantic will be unable to offer the services that are demanded by the large business customers located in its region unless it is permitted to acquire GTE. Finally, it is claimed that the merger would permit Bell Atlantic/GTE to achieve the scale at which it could become an effective nationwide competitor.

This section analyzes the validity of the merging parties' claims. We conclude that none of the claims is plausible. GTE is not limited in the customers it can seek to serve; in particular, it can seek to serve customers that are headquartered in Bell Atlantic's service territory. Similarly, Bell Atlantic is not limited in the services it can offer, nor is it limited to "following" customers headquartered in its service territory to their operations out of region. Finally, both companies could

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[47] "Collectively, these anchor customers, brand reputation, and facilities are the *essential* steps for broad-scale entry into local markets across the country" (Public Interest Statement, p. 8, emphasis added).

independently pursue the strategy that they propose to pursue together with no loss in efficiency.

6.1 GTE Can Expand Without the Merger

The common thread that weaves together all of the claims that the merger would generate substantial consumer benefits is the simple assertion that GTE has capabilities and assets while Bell Atlantic has customers. For example, with respect to local exchange entry, the merging parties characterize GTE's handicaps in the following way:

> GTE, faced with an imperative to compete given its island-like service areas in the other Bells' seas, already has established a separate corporate unit to plan for entry into territory close to its own few urban franchise areas near Los Angeles, Dallas, Tampa, and Seattle. Carrying out this commitment, it has already developed some of the experience, know-how, and systems that are necessary (but not sufficient) for such entry. In so doing, however, GTE has run into significant obstacles: (1) substantial investments are needed in largely fixed-cost operation platforms (which become more economical with larger customer bases); (2) economical local entry requires truly proximate facilities (which can be more efficiently used and economically deployed with larger volumes of business); and (3) acquiring customers is difficult without a base of anchor customers and without a robust national brand (both of which can be more economically obtained with a national presence creating scale and ties to multi-location businesses).[48]

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[48] Public Interest Statement, p. 7. Presumably, GTE's "imperatives" are driven by a fear that it is vulnerable to entry from ILECs in adjacent markets despite the fact that apparently neither NYNEX nor Bell Atlantic felt the same imperatives prior to their merger.

With respect to the provision of long-distance service, the merging parties claim:

> GTE's customer base alone will not generate sufficient long distance traffic to deploy a full-fledged national network. The ability to market to Bell Atlantic's customer base will provide the scale necessary to allow the combined company more quickly to construct and operate a national long distance network to compete against the Big Three.[49]

GTE and Bell Atlantic further claim that:

> Bell Atlantic's business customers from the Northeast provide a legion of anchor customers – through those businesses' branch offices – in many cities across the Nation, including the few urban areas near current GTE service areas and, in addition, cities currently passed by GTE's planned national long distance network, known as the Global Network Infrastructure or "GNI."[50]

Similar claims are made with respect to Internet and data services:

> Bell Atlantic currently has limited experience and presence in Internet and data-services markets. GTE...is one of the leaders in developing and selling such services, but it lacks the critical high-density customer bases to deploy many such services as soon as they are technologically available. The merger of the two companies will give each what it currently lacks alone.[51]

In short, the parties claim that GTE has the expertise, facilities, and determination to be a vibrant competitor in these and other areas, but lacks customers, which Bell Atlantic can supply. Thus, an essential aspect of the merging parties' argument is that GTE currently can compete successfully only for those customers, particularly

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[49] Public Interest Statement, p. 4.

[50] Public Interest Statement, p. 7.

[51] Public Interest Statement, p. 16.

large business customers, who are either located in its home region or near points at which the planned GNI is expected to touch down.

According to the merging parties, the merger is important because it would provide GTE access to "Bell Atlantic's existing relationships with large businesses."[52] John T. Curran, Chief Technical Officer for GTE Internetworking, claims that "[b]y affording GTE access to Bell Atlantic's concentrated Northeast customer base, the merger will allow GTE to introduce a host of new Internet services, and a broader range of advanced data services, to customers across the United States."[53] Moreover, the parties argue that the merger "will provide the merged company the opportunity to obtain several anchor customers in numerous out-of-franchise markets adjacent to existing GTE territories..."[54] Thus, according to the theory being advanced by the merging parties, GTE currently cannot be an effective competitor for the telecommunications business of a nationwide firm with headquarters in, say, Philadelphia, even if a very large proportion of the telecommunications needs of that firm are outside Bell Atlantic's service territory, perhaps even if those requirements are largely in or adjacent to GTE's own territory.[55]

These claims should be afforded little, if any, credibility. The large business customers that are the initial targets of the proposed business strategy are highly

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[52] Kissell Declaration, Para. 2.

[53] Declaration of John T. Curran, Para. 2.

[54] Kissell Declaration, Para. 2.

[55] "GTE's lack of an adequate high-density customer base in, for example, Boston, New York, Newark, Philadelphia, Wilmington, Baltimore, metropolitan Washington, DC, and Richmond has impaired its ability to roll out new services" (Public Interest Statement, p. 17).

sophisticated customers. Thus, there is no reason to believe that large telecommunications suppliers with account teams that are physically located in the same place as the buyer, but with traditional service territories that do not include the buyer's headquarters, face an important competitive handicap. In particular, there would appear to be nothing to prevent GTE from seeking to serve the needs of businesses that are located in Bell Atlantic's service territory but that have operations in or near GTE's service territory. Indeed, if GTE's services are as attractive as they are claimed to be, GTE could compete effectively for the patronage of customers even within Bell Atlantic's service territory. By using a combination of its own and leased facilities, GTE can extend its within-region expertise to compete for large business customers in Bell Atlantic's service area. The anticipation of a growing customer base will provide GTE with the incentive to invest in its brand name, in facilities, and in the development of other services. There is no sense in which Bell Atlantic's large business customers are an "essential facility" for GTE because GTE can win those customers from Bell Atlantic. In short, GTE does not have to merge with Bell Atlantic to obtain access to Bell Atlantic's large-customer base. Moreover, if GTE were to gain access to Bell Atlantic's customers because Bell Atlantic favored GTE after the merger, that would be evidence of anticompetitive harm, not increased efficiency.

Further, GTE currently possesses a significant competitive *advantage* in competing for businesses in Bell Atlantic's service territory that would likely be lost, at least for a time, if the merger were to take place. GTE currently can offer long-

distance service in Bell Atlantic's territory but Bell Atlantic cannot. Unless Bell Atlantic/GTE immediately upon the merger, obtained Section 271 authorization in every state in which it operated, GTE would face a competitive handicap as part of the combined entity.

6.2 Bell Atlantic Can Expand Without the Merger

The merging parties also allege that if the merger were not approved, Bell Atlantic would not enter GTE's service areas to better serve large business customers that are headquartered in its service area and have subsidiaries or affiliates in GTE's service area:

> Bell Atlantic cannot reach these customers alone because it lacks the facilities, platform capability, and marketing and distribution channels to reach so far beyond its concentrated franchise. But many of these Bell Atlantic customers operate near GTE's franchise or in cities...where GTE's new national fiber network...will have points of presence.[56]

Just as GTE can compete for large business customers that are in Bell Atlantic's service area, Bell Atlantic can similarly compete for the business of the same kind of customers located in or near GTE's service area. It can hardly be argued that Bell Atlantic lacks name recognition among such customers, or that these customers have doubts about Bell Atlantic's technical capabilities that can only be assuaged through an association with GTE. Indeed, Bell Atlantic is, in some

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[56] Kissell Declaration, Para. 8. We cannot resist observing that Bell Atlantic previously contended that it had no special advantage in competing for customers in New York despite its proximity to the NYNEX service territory, whereas it now contends that this merger would dramatically improve its ability to compete in areas adjacent to GTE's service territory.

respects, *better* able today to compete for these out-of-region customers than for those in its own service territory because it can offer them bundled local and long-distance service.

It should also be noted here that the rationale being offered by the merging parties is different from that being claimed in the SBC/Ameritech merger. There, the merging parties claim that they wish to follow large business customers that are located in their respective service territories into other territories, but that neither has a sufficient number of customers to follow for that to be viable. Here, the claim is not that Bell Atlantic lacks a sufficient number of customers to follow but that Bell Atlantic could not enter areas near GTE's service territory without the merger because it lacks nearby facilities.

Although we have elsewhere taken issue with the claim made by SBC/Ameritech,[57] at least there the merging parties do not contend that they must merge with the ILECs in the regions they plan to enter for their strategy to be successful. In that merger, SBC would, of course, gain access to facilities in areas served by Ameritech, but that is not the primary benefit claimed for the merger. Instead, SBC and Ameritech claim that the merger is needed to permit them to follow customers headquartered in both companies' service territories into areas currently served by neither of them. Here, it is only, or primarily, large business

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[57] Declaration of S.M. Besen, P. Srinagesh, and J.R. Woodbury, "An Economic Analysis of the Proposed SBC/Ameritech Merger," October 14, 1998.

customers that are headquartered in Bell Atlantic's service territory that will be followed.[58]

6.3 The Merging Parties' Claim Is Inconsistent with Prior Investment Behavior

The claim that the merging parties can compete effectively only for customers in their own service territories is also inconsistent with investments made by their cellular and international divisions. For example, Bell Atlantic has cellular properties in New Mexico and South Carolina, far from its service territory, and GTE has cellular properties in Tennessee, where it has no landline service areas.[59] The parties also have international holdings in cellular companies in China, Japan and other countries, and in landline telephone companies in India, Thailand, Venezuela, Canada, New Zealand, and other countries.[60] The apparent success of the parties' holdings in these countries is testament to their ability to compete in areas that are far from their traditional home territories.

6.4 The "One Stop Shopping" Argument

The merging parties also contend that competition and consumers will benefit from one-stop shopping:

> The merger of Bell Atlantic and GTE will bring into existence a *fourth* new competitor with the necessary scale and scope to

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[58] The merging parties claim that "Bell Atlantic's business customers from the Northeast provide a legion of anchor customers...."(Public Interest Statement, p. 7). No reference is made to anchor customers that are headquartered in GTE's service territory.

[59] Public Interest Statement, Exhibits 1 and 3.

[60] Public Interest Statement, Exhibit 2.

> participate in this emerging national market for bundled services. The new company will have a national customer base, the full array of competitive offerings in key markets across the country, and the ability to create a national brand to rival AT&T's or MCI WorldCom's.[61]

The Affidavit of Mr. Steven Signoff, Vice President of Strategic Business Development at Sprint (henceforth Signoff Affidavit), shows that the merging parties' assumptions about the purchasing behavior of large businesses at best exaggerate the importance of one-stop shopping. Large businesses frequently and deliberately divide their purchases among multiple providers instead of seeking a single source of supply, as the merging parties claim. Mr. Signoff further observes that "[i]f the voice and data continue to be provided separately, there would appear [to be] no overriding reason for buyers to utilize a single vendor."[62]

It should also be noted that none of Bell Atlantic's or GTE's competitors are capable of offering sole-source arrangements, so there is no competitive necessity for either party to do so.[63] No single company now has, or is likely to have in the foreseeable future, this end-to-end capability. Like other third-party vendors, Bell Atlantic and GTE can currently provide a single point of contact for their customers only by combining its services with those of other telecommunications providers. The use of leased facilities by the merging parties to supplement their own offerings is no more of a disqualifier than would be an Interexchange Carrier's (IXC) purchase

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[61] Public Interest Statement, p. 2.

[62] Signoff Affidavit, Para 16.

[63] Signoff Affidavit, Para. 9.

of access services to supplement its own services. Indeed, such arrangements are common in international offerings. For example, Global One has combined its offerings with those of local providers to offer one-stop shopping to its customers. It has not provided the entire array of services through the owned facilities of its Global One partners.

Moreover, although some large businesses order their telecommunications services centrally, many others do not. Because the initial targets of the Bell Atlantic/GTE business strategy are highly sophisticated, it is unreasonable to assume that large telecommunications suppliers with account teams that are physically located in the same place as the buyer, but with traditional service territories that do not include the buyer's headquarters, face an important competitive handicap.[64]

6.5 CAPs and CLECs Have Competed Successfully

Finally, there is substantial evidence from the success of Competitive Access Providers (CAPs) and Competitive Local Exchange Carriers (CLECs) like Teleport and MFS that firms can and do compete effectively, and grow to quite considerable size, by serving the communications needs of large business customers *without having a single customer to "follow."*

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[64] We should also note that, whatever role brand-name recognition may have in the competition for residential and small business customers, it is unlikely to be an important factor for the large sophisticated business customers who are the initial targets of the strategy.

After all, these CAPs and CLECs had no local exchange or exchange access customers, nor did they have any interexchange customers, when they began to operate. Neither did the CAPs have a brand name or enjoy proximity to a service area in which they had been incumbents for decades. What they did have were services that could attract large business customers to move some of their requirements away from the ILECs. It seems unlikely that Bell Atlantic or GTE would be any more disadvantaged in competing for the business of, say, Sears in Chicago than was either MFS or Teleport when they began their operations.

6.6 The Bell Atlantic/GTE Merger Would Not Result in Lower Local Exchange Prices

Bell Atlantic and GTE assert that their merger would permit them to become a more effective rival in bidding for the telecommunications business of very large concerns,[65] in turn permitting them to compete effectively for the patronage of consumers and small businesses. This, they claim, would result in more choices for consumers and small businesses, and (presumably) lower prices.[66]

We explained above why the proposed merger is not necessary for Bell Atlantic and GTE to implement their planned business strategy. However, even if one assumed that the merger was necessary, the consumer benefits of the merger for large business customers would likely be small. As most observers appear to concede, the rivalry for the patronage of large business customers is more

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[65] Public Interest Statement, p. 13.

[66] Kissell Declaration, Para. 9.

significant than the rivalry for other consumer groups.[67] More vigorous participation by Bell Atlantic/GTE, therefore, would be unlikely to yield large competitive benefits.

There is little doubt that if the merger were to result in the much-anticipated competition for the patronage of residential and small business customers, the benefits could be considerable. However, the merging parties offer no evidence to support their claim that they would be able to serve most residential customers profitably once they had acquired the patronage of large businesses. Indeed, the experience to date contradicts this claim. Firms with a mixture of owned and leased facilities like TCG and MFS have for years been competing with the ILECs to serve the telecommunications demands of large businesses. Despite that history, however, none of these rivals has become a significant competitive alternative for residential consumers. As Dr. Hayes indicates in his Declaration, entry into local exchange and exchange access services for this market segment has not been competitively important to date. Bell Atlantic/GTE provides no reason why its strategy makes it more likely that it would compete for residential consumers in out-of-region areas when other suppliers of services to large business customers have not done so, despite the fact that they, too, have large businesses as "anchor tenants."[68]

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[67] See the Hayes Declaration for a discussion of the options available to high-volume business customers located in major urban centers.

[68] The merging parties effectively concede this point when they note that "In the mass market (which was the focus of the Commission's concern in Bell Atlantic-NYNEX), the experience of the last several years has changed original expectations and taught the economic difficulty of mass market entry, particularly in less dense rural and suburban areas" (Public Interest Statement, p. 31).

Finally, the merging parties' analysis neglects the control that they will retain over essential facilities in their own regions and, thus, their ability to foreclose competitors that seek to enter their territories. When control over essential facilities is accounted for by the analysis of the merger, the conclusion that the merger would enhance in-region competition does not appear to be warranted.

Initially, virtually all entrants into the Bell Atlantic/GTE post-merger territory would require access to ILEC facilities or services (UNEs or wholesale offerings) and interconnection in order to compete. As suggested by the analysis of Professors Katz and Salop in their Declaration, the combined Bell Atlantic/GTE would have both increased ability and incentive to foreclose local exchange rivals after the merger. This foreclosure may take several forms, among them: (a) degradation in the quality of service the merged firm offers to entrants, including access to its OSS for pre-ordering, ordering, and provisioning service; (b) delays in repair and maintenance of leased facilities or purchased services; (c) limited access and inflated prices for collocating facilities in the merged firm's central office; and (d) bundling of otherwise separable facilities, and (e) delays in negotiating interconnection contracts and stalling CLECs' exercise of the most favored nations provisions of Section 252(i).[69] If the combination of Bell Atlantic and GTE were to

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[69] For a useful compendium of the types of problems faced by an entrant in offering new telecommunications services, see Northpoint Communications, "Proposed Remedies for Promoting DSL Competition" (undated). Northpoint observes (p. 1) that "while each ILEC currently provides some unbundled network elements under reasonable terms and conditions, each ILEC also erects a host of onerous and unnecessary barriers to increasing competitive opportunities. Moreover, there is no consistency, as every barrier that one ILEC claims is necessary, another ILEC avoids entirely."

successfully raise their rivals' costs in the resulting enlarged service territories, prices in these service territories would be higher than they otherwise would have been.

As suggested by the analysis of Professors Katz and Salop (and as summarized in Section 4 of this Declaration), the merger would increase Bell Atlantic's and GTE's incentives and ability to engage in strategies that raise the costs of their local exchange rivals. Consequently, the entrants may not be able to discipline the merged parties, and prices in the Bell Atlantic/GTE territory may rise above what they would have been had the merger not occurred. Moreover, because the increase in exclusionary behavior harms the entrant everywhere and not just in the territory of the merging parties, competition in all areas, including the 21 markets that Bell Atlantic and GTE propose to enter after the merger, will be adversely affected.

In sum, the merging parties' analysis is incomplete because it ignores the effects of the merger on the ability and incentives of the merged entity to exclude rivals. Once those effects, which are analyzed in detail by Professors Katz and Salop, are taken into account, the conclusion that local exchange prices would fall in the Bell Atlantic/GTE service territory does not follow. Indeed, once it is recognized that the merger would create incentives for the merging parties to increase the

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This suggests that benchmarking may be needed to judge the reasonableness of the terms and conditions imposed by individual ILECs. See the discussion of benchmarking above.

extent to which they exploit their control of transport and termination, one cannot conclude that the merger would result in consumer benefits through lower prices.

6.7 Other Claimed Merger-Related Efficiencies

Almost in passing, the parties claim that the merger would generate substantial synergies, including $2 billion in cost savings and $2 billion in revenue enhancements in the third year after the merger closed, as well as additional capital savings of $0.5 billion.[70] While each of these claims is examined below, neither claim is supported by any data or analysis on the record.

Cost Reductions. The cost reductions are estimated to arise from the elimination of "duplicative staff and information and operation systems, more efficiently using long distance capacity, and reducing procurement costs."[71] Instead of providing support for these estimates, they are instead described as "real budget commitments that department heads must meet or exceed" and that the compensation of officers responsible for the lines of business would be based on their ability to meet these commitments.[72] Similarly, no support is provided for the claim that the merger would permit reductions in capital expenditures.

Recent econometric studies on the economies of scope and scale in local telecommunications networks do not support the claim that mergers of firms serving

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[70] Public Interest Statement, p. 22, and Declaration of Doreen Toben (henceforth Toben Declaration), Para. 2.

[71] Toben Declaration, Para 3.

[72] Toben Declaration, Para 4.

non-overlapping territories would result in cost savings. For example, Ying and Shin conclude that the large LECs might be too large: "Using recent 1984-91 data, we find that LECs are not natural monopolies in the post-divestiture era. Having two firms produce the monopoly output could potentially result in over 20 percent cost savings."[73] In a follow-up study, Ying and Shin found that "the benefits to breaking up the monopoly outputs of existing local exchange carriers substantially outweigh the potential losses in efficiency."[74]

The merging parties also assert that the combined firm would benefit from the adoption of the best practices of each firm, although no quantification of those efficiencies are presented or asserted. Whatever size the related efficiencies may be, most if not all of them are not likely to be merger-specific. If, absent the merger, GTE and Bell Atlantic did not compete with each other, as they assert would be the case, then a contractual relationship between the two firms could serve as a vehicle for exchanging best-practice technology.

However, one risk that the merger poses for consumers is that what is "best practice" for the merged firm may not be that which advances the interests of consumers. Because of competitive circumstances or regulatory oversight, Bell Atlantic, prior to the merger, might find it profitable to adopt certain practices that

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[73] John S. Ying and Richard T. Shin, "Viable Competition in Local Telephone: Superadditive Costs in the Post-divestiture Period," Federal Trade Commission and University of Delaware Department of Economics, Working Paper: 94-8, Abstract, June 1994.

[74] John S. Ying and Richard T. Shin, "Unnatural Monopolies in Local Telephone," *Rand Journal of Economics* 23:2, Summer 1992, pp. 171-83.

benefit consumers, such as efficient CLEC interconnection, that GTE would find unprofitable. The adoption of this practice by Bell Atlantic could encourage regulators overseeing GTE to compel GTE to adopt the same practice. However, if the additional profits to Bell Atlantic from the adoption of the practice were outweighed by the losses that GTE would experience from adoption, the merged firm would not adopt the practice, or would more vigorously resist regulators' attempts to compel the adoption of the practice.

Revenue Enhancements. The parties claim that the merger would result in revenue enhancements "from the... penetration of vertical services like second lines; improving the value and speeding the widespread deployment of long-distance offerings; and creating better and more widely distributed data services."[75] No specifics are offered to support this claim.

The claim that the merger would permit a more rapid deployment of better long-distance and advanced data services should be viewed with caution. The parties do not explain why the merger would speed deployment of these services. One reason may be the "better access" that GTE expects to have to Bell Atlantic's customers. As we have pointed out elsewhere, GTE is currently entitled to equal access to Bell Atlantic's customers. If it enjoyed better access to these customers after a merger, it can be inferred that other competitors would be unfairly

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[75] Toben Declaration, Para 3.

disadvantaged and competition and customers would be hurt. This cannot be counted as a public interest benefit.

In sum, the parties' claims of cost reductions and revenue enhancements are not supported with any detailed analysis or data. Some important claims (e.g., the claimed economies of scale) are inconsistent with the conclusions of recent econometric studies. Other claims (e.g., increased penetration of vertical services) are not clearly benefits, and may instead be harmful to consumers. In short, the parties have not provided a basis for their claim that merger-related efficiencies would amount to $4.5 billion dollars three years after the merger closed.

Past Experience. The merging parties assert that the experiences of the merger of Bell Atlantic's wireless operations with those of NYNEX and the Bell Atlantic-NYNEX merger demonstrate the ability of the merged firm to attain substantial cost and revenue gains.[76] With respect to mobile service, the parties assert that reductions in per-subscriber costs have exceeded pre-merger estimates and that Bell Atlantic Mobile subscriber growth and other performance dimensions have improved markedly since the merger. Putting aside the failure of the merging parties to appreciate the likelihood that a reduction in per-subscriber costs and an increase in subscriber growth are related, Bell Atlantic and GTE do not explain what practices and services were utilized by Bell Atlantic to attain these gains and why

[76] Toben Declaration, Paras. 6-7.

these practices and services would not have been utilized but for Bell Atlantic's acquisition of NYNEX's mobile service.

The claims of the merging parties are not sufficient to demonstrate either the magnitude of any gains attained subsequent to the merger or that the gains were merger-related. Such a demonstration is particularly important in light of the substantial competitive risks posed by the merger.

7. Conclusion

The proposed Bell Atlantic/GTE merger is not in the public interest. It would increase the significant incentives that Bell Atlantic and GTE already have to foreclose the entry of CLECs, especially those that wish to offer innovative communications services. It would also increase both the ability and incentives of the merged company to engage in anticompetitive behavior toward IXCs when and if Bell Atlantic and GTE were permitted to offer long-distance service. Moreover, this situation would persist for the foreseeable future as would-be competitors continue to rely on access to facilities that could be provided only by Bell Atlantic and GTE and remained dependent on interconnection to Bell Atlantic and GTE customers.

In addition, the proposed merger would reduce substantially the ability of the Federal Communications Commission and other regulators to employ benchmarking as a policy tool. By reducing the number of independent ILECs, the merger would increase the impact of any individual ILEC on average industry performance. This would reduce the incentive of all ILECs, not just Bell Atlantic and GTE, to improve

their performance because it would reduce the reward from such improvements. The proposed merger would also reduce the ability of regulators to use best-practice and worst-performance benchmarks because it would reduce their confidence that the observed behavior of any particular firm truly reflected anticompetitive behavior. Given the widespread use of benchmarking by telecommunications regulators, these effects would likely be large.

While denying that the proposed merger would have any anticompetitive effects, Bell Atlantic and GTE have also claimed that it would produce substantial efficiencies. In particular, the parties claim that the merger would permit them to be an effective nationwide competitor and that they would, or could, not be one without the merger. However, the claim that the merger is needed for this purpose is dubious. Neither Bell Atlantic nor GTE is limited to seeking business from large business customers in their current service territories and, indeed, each has significant advantages over others in doing so. The merging parties do not convincingly explain why they can only compete effectively for large business customers that are headquartered in their service territories, nor why they would experience significant cost disadvantages if they could pursue only the customers headquartered in their separate service territories. Indeed, their claims are inconsistent with the experience of Competitive Access Providers in competing successfully for large business customers without a substantial base of such customers to "follow."

For all these reasons, the proposed merger between Bell Atlantic and GTE should be rejected.

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ADDENDUM TO

DECLARATION OF DR. MICHAEL L. KATZ
AND DR. STEVEN C. SALOP

USING A BIG FOOTPRINT TO STEP ON COMPETITION: EXCLUSIONARY BEHAVIOR AND THE SBC-AMERITECH MERGER

The attached declaration was prepared with respect to the proposed merger of SBC and Ameritech, and was submitted as part of the record of the Federal Communications Commission in that matter. This addendum is submitted to affirm that the economic analysis set forth in the attached declaration applies to the proposed merger of Bell Atlantic and GTE, CC Docket No. 98-184.

Dr. Michael L. Katz
Dr. Steven C. Salop

November 23, 1998

DECLARATION OF DR. MICHAEL L. KATZ AND DR. STEVEN C. SALOP

USING A BIG FOOTPRINT TO STEP ON COMPETITION:

EXCLUSIONARY BEHAVIOR AND THE SBC-AMERITECH MERGER

October 14, 1998

TABLE OF CONTENTS

I. INTRODUCTION AND QUALIFICATIONS

1. My name is Michael L. Katz, and I declare as follows. I am the Edward J. and Mollie Arnold Professor of Business Administration at the University of California at Berkeley. I hold a joint appointment in the Haas School of Business Administration and the Department of Economics. I serve as the Director of the Center for Telecommunications and Digital Convergence at the University of California at Berkeley. I have also served on the faculty of the Department of Economics at Princeton University. I received my A.B. from Harvard University *summa cum laude* and my doctorate from Oxford University. Both degrees are in Economics.

2. I specialize in the economics of industrial organization, which includes the study of antitrust and regulatory policies. I regularly teach courses on microeconomics, business strategy, and telecommunications policy. I am the author of a microeconomics textbook, and I have published numerous articles in academic journals and books. I have written several articles on issues regarding network effects, antitrust policy enforcement, and telecommunications policy, including access and interconnection policy. A copy of my curriculum vitae—attached to this Declaration as Exhibit 1—lists all publications that I have authored or co-authored, with the exception of a few letters to the editor on telecommunications policy. I am a coeditor of the *Journal of Economics and Management Strategy.*

3. In addition to my academic experience, I am a cofounder of The Tilden Group, LLC, a consulting firm that specializes in the application of economic analysis to issues

of antitrust and regulatory policy. I have served as a consultant to both the U.S. Department of Justice and the Federal Communications Commission on issues of public policy in telecommunications markets. I have served as an expert witness before various state and federal courts, and I have provided expert testimony before a state regulatory commission. In 1994 and 1995, I served as Chief Economist of the Federal Communications Commission (the Commission). In addition to advising the Commission on the full range of policy issues before it, I testified before Congress. Since leaving the Commission, I have spoken at several Commission public forums.

4. My name is Steven C. Salop and I declare as follows. I am Professor of Economics and Law at the Georgetown University Law Center, where I have taught since 1981. I received my bachelor's degree from University of Pennsylvania *summa cum laude* with honors in economics and my doctorate in economics from Yale University. Much of my research and teaching focuses on industrial organization economics and antitrust policy and law. I regularly teach courses in basic and advanced antitrust economics and law at the Law Center. I have also taught graduate courses in basic and advanced industrial organization at MIT and the University of Pennsylvania. I have written numerous scholarly articles that analyze oligopolistic competition, mergers, and exclusionary conduct. Among my articles in the area of the economics and law of exclusionary conduct are: "Raising Rivals' Costs," co-authored with David Scheffman; "Antitrust Analysis of Exclusionary Rights: Raising Rivals' Cost to Gain Power Over Price," co-authored with Thomas Krattenmaker; and "Market Power and Monopoly

Power in Antitrust Law," co-authored with Thomas Krattenmaker and Robert Lande. I have also published an article on vertical mergers that analyzes vertical foreclosure. "Evaluating Vertical Mergers: A Post-Chicago Approach," co-authored with Michael Riordan. A copy of my curriculum vitae is attached to this declaration as Exhibit 2.

5. In addition to my academic experience, I have consulted on a variety of matters involving telecommunications, many of which raise issues of network effects and the incentives for exclusionary conduct. These matters include the acquisition of McCaw Communications by AT&T, the attempted acquisition of MCI's Internet assets by Worldcom, Primestar's proposed acquisition of the MCI/NewsCorporation high powered direct broadcast satellite assets, and Time Warner's acquisition of Turner Broadcasting.

6. We have been asked by counsel for Sprint to assess the effects of the proposed merger of SBC and Ameritech on the likelihood of exclusionary conduct by these carriers and the resulting ability of other carriers to bring competition to local exchange service and access markets in the United States.

7. In this declaration, we assess from the perspective of antitrust and industrial organization economics the effects on competition and consumers of exclusionary conduct flowing from the proposed merger of SBC and Ameritech. Drawing on our training and experience as economists, and our review of the relevant facts available to us, we conclude that—by threatening the entry and expansion of innovative rivals to the incumbent local service providers—the proposed merger raises significant public interest concerns.

II. OVERVIEW OF FINDINGS

A. Access to the ILECs' Networks is Efficient and in the Public Interest.

8. Because a subscriber to a network benefits from being able to communicate with others, and because of the potential inefficiencies associated with building overlapping facilities, it generally is efficient for carriers to rely on one another's facilities to complete calls made by subscribers on one network to subscribers on another. Thus, giving competitors access to the ILECs' networks generates significant benefits in terms of lower costs and higher quality of service.[1] Access can take several forms. In the case of two local exchange carriers, each carrier may purchase transport and termination from the other to complete calls originating on one network and terminating on the other. In the case of a local exchange carrier and interexchange carrier ("IXC"), the IXC interconnects with the local exchange network to obtain either originating or terminating access. Access can take other forms as well. For instance, a competitive local exchange carrier ("CLEC") may purchase unbundled network elements ("UNEs") from an incumbent local exchange carrier ("ILEC"). The purchase of UNEs can be viewed as a form of access or interconnection because it allows a carrier to use its facilities in combination with those of another carrier (*i.e.*, the ILEC) to deliver services to end users.

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[1] See, for example, Katz, Michael L., Gregory Rosston, and Jeffrey Anspacher, "Interconnecting Interoperable Systems: The Regulators' Perspective," *Information Infrastructure and Policy*, 4 (1995):327.

In what follows, we generally will use the term *access* to include all these forms of access and interconnection.

9. The need for, and value of, access arises whenever there are multiple carriers providing public services. Thus, the need for access will not disappear even if local competition takes hold. Indeed, the availability of high-quality, efficiently priced UNEs and interconnection among local networks is a necessary structural prerequisite for local exchange markets to make the transition to competition. In the presence of such an interconnection policy (for both UNEs and transport and termination), CLEC investment in local telecommunications infrastructure is stimulated by the fact that a carrier can count on being able to use its infrastructure to provide services that also rely on the availability of access to the ILEC's network on reasonable terms. The availability of access to local exchange carriers (in the form or originating and terminating access) similarly stimulates investment in interexchange services, including advanced telecommunications services. Carriers like Sprint that are investing in services that combine local and long distance offerings in integrated packages (combined service carriers, or "CSCs") also will have greater investment incentives for both reasons.

B. The Merger of SBC and Ameritech Poses a Significant Threat to the Provision of Efficient and Innovative Access and thus Poses a Significant Threat to Competition.

10. Efficient access is essential to realizing the full benefits that telecommunications networks can provide. Unfortunately, the proposed merger between SBC and Ameritech poses a significant threat to the provision of efficient access by increasing the companies'

incentives and ability to carry out exclusionary access policies. Our economic analysis concludes that:

- CLECs, IXCs, and CSCs all will continue to depend on ILEC access services (*i.e.*, UNEs as well as various forms of originating and terminating access services) in order to be able to provide commercially viable services themselves. CLECs, IXCs, and CSCs will need an array of new and innovative forms of access in the future.

- Ameritech and SBC currently possess significant market power in the provision of access services in their respective service regions. This market power may be exercised by setting high access prices (in the absence of price regulation) or by pursuing exclusionary access policies under which Ameritech and SBC delay, deny, or degrade the access provided to other carriers.[2]

- By permitting effective coordination between what are today separate and independent local exchange operations, the proposed merger of Ameritech and SBC would increase both parties' incentives and ability to disadvantage CLECs, IXCs, and CSCs by reducing their provision of the high-quality, efficient, and innovative forms of access that those competitors will require to compete.

- Regulation is an imperfect check on the exercise of ILEC market power. The proposed merger would make it even more difficult for the state and federal policy makers to prevent SBC and other ILECs from refusing to provide efficient, high-quality and innovative access at reasonable prices.

- The proposed merger of SBC and Ameritech thus poses a significant threat to telecommunications competition and the public interest.

11. In the remainder of this Declaration, we explain the economic logic and factual analysis that has led us to these conclusions.

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[2] Throughout, we use the term *exclusionary* to refer to practices that impair the ability of rival firms to compete, even if the practices do not drive the rivals completely out of the market. Thus, it includes conduct that impairs rivals' quality, raises rivals' costs, slows rivals' entry or expansion, as well as similar conduct.

III. SBC AND AMERITECH POSSESS SUBSTANTIAL MARKET POWER IN THE PROVISION OF ACCESS

12. A first step to analyzing whether the merger poses the threat of anticompetitive behavior is to assess whether SBC and Ameritech possess substantial market power in the provision of access services. In particular, we are interested in the question of whether SBC and Ameritech have the ability to disadvantage rival carriers by refusing to provide access on efficient and reasonable terms. In this section we briefly review the evidence that they do.

A. For Many Customers and Services, there are No Economic Substitutes for ILEC Access Services.

13. In analyzing the market power of the ILECs and their incentives to exclude rivals, both upstream and downstream markets are relevant.[3] First, there are *downstream* product markets for various retail services, including local exchange services, interexchange services, and combined (local exchange and interexchange) services.[4,5]

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[3] For a discussion of market definition, see the Declaration of John B. Hayes, "Market Power And The SBC-Ameritech Merger," October 14, 1998 and *In the Applications of NYNEX Corporation Transferor, and Bell Atlantic Corporation Transferee, For Consent to Transfer Control of NYNEX Corporation and Its Subsidiaries*, FCC 97-286, *Memorandum Opinion and Order*, released August 14, 1997, at 49-57. For a discussion of market definition in the context of exclusionary conduct see Thomas Krattenmaker, Robert Lande and Steven Salop, "Monopoly Power and Market Power in Antitrust Law," *Georgetown University Law Review* **76** (1987):241.

[4] Wireless providers also offer local and interexchange services. Wireless services are differentiated by mobility and, at present, generally do not compete directly with wireline services. The issues, however, are very similar for wireline and wireless carriers seeking ILEC access services, and we write below using wireline terminology as a short hand for all types of interconnection and access.

Second, there are *upstream* product markets for the provision of access services to carriers who are in turn providers of retail telecommunications services. For example, an IXC participates in the downstream market as a provider of long distance services to end users, and the IXC participates in the upstream market as a buyer of access services (originating and terminating access). Similarly, CLECs are sellers in downstream local exchange markets and are buyers of UNEs and transport and termination in upstream markets.[6]

14. ILECs have monopoly power in the provision of access services to CLECs, CSCs and IXCs. This conclusion follows directly from the fact that these carriers currently have no economically feasible alternatives to the use of ILEC facilities (whether through the purchase of UNEs, transport and termination, interexchange access, or local exchange resale) to reach the vast majority of telecommunications subscribers in the U.S.

15. The absence of viable substitutes for SBC and Ameritech's access services that would otherwise limit their market power can be seen from available market share data.

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[5] Combined services compete with both local and interexchange services, and some industry observers believe that the three markets may blend into one in the future. For simplicity of exposition, we treat local exchange, interexchange, and combined services as three separate product markets. However, the results of our analysis would not be changed if markets evolved to the point where combined services constituted the sole downstream product market. Similarly, our analysis applies to the situation in which combined services do not yet constitute a distinct relevant market.

[6] Of course, a CLEC may also be a seller in upstream markets, providing transport and termination to other local exchange carriers and originating and terminating access to IXCs. By excluding CLECs, an ILEC can maintain this market power in the upstream

The ILECs' shares of access lines exceeded 98.5 percent in the first two states for which Ameritech and SBC filed Section 271 applications for long-distance authority. In Michigan, the aggregate market share for CLEC's fell between 1.2 and 1.5 percent.[7] And the U.S. Department of Justice found that Southwestern Bell's "market share in Oklahoma is so near 100 percent as to be practically indistinguishable from a complete monopoly."[8] And these are states in which Ameritech and SBC have (unsuccessfully) represented that local exchange markets are open to competition. Moreover, even the 1.5 percent share for CLECs overstates the options for a carrier seeking to reach most residential subscribers—competitive carriers' access lines are highly concentrated in urban areas and for business subscribers.

16. Market shares alone do not tell the whole story. However, examination of the conditions of entry confirms the conclusion that ILECs have significant market power as providers of access services. There are high barriers to entry facing potential entrants into the provision of access services in competition with the ILECs. First,

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access markets.

7 See *In the Matter of Application of Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, as amended, To Provide in-Region, InterLATA Services in Michigan*, CC Docket No. 97-137, *Evaluation of the United States Department of Justice*, filed June 25, 1997, at B3. These share data are for switched access. Resold lines are included in the CLECs' share for these calculations.

8 *In the Matter of Application by SBC Communications Inc., Pursuant to Section 271 of the Communications Act of 1934, as amended, To Provide In-Region, InterLATA Services in Oklahoma*, CC Docket No. 97-121, *Evaluation of the United States Department of Justice*, filed May 16, 1997, at 52.

telecommunications markets are characterized by strong network effects. Thus, any CLEC seeking to offer public telecommunications services must itself interconnect with ILEC local exchange networks to be competitively viable.[9] The need to interconnect with the ILECs' networks to realize network effects will continue as long as ILECs remain the only way to connect to significant numbers of end users. This need to interconnect with the ILECs' networks gives ILECs the power to reduce the threat of entry by raising entrants' costs, either by raising the price of access or by denying, delaying or degrading the necessary access. In addition to network effects, there are economies of scale (density) in providing access services. Local network infrastructure has large fixed costs that must be incurred even if the carrier is serving only a small percentage of telephone subscribers in a given area. Thus, small-scale entry is difficult, which raises the cost of entry.

17. SBC might argue that an ILEC needs interconnection as much as other carriers, but the facts indicate otherwise. A CLEC, IXC, or CSC seeking access services from the ILEC needs that interconnection much more than does the ILEC. To see why the bargaining positions are unbalanced, consider what would happen if the interconnection negotiations between an ILEC and a CLEC were to break down. If the parties failed to reach any

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[9] There is one limited exception. A firm offering solely originating and/or terminating interexchange access could offer service without directly connecting to an ILEC network. That carrier's IXC customers, however, would still need to purchase access from ILECs to reach the vast majority of telecommunications subscribers.

interconnection agreement at all, the CLEC would likely be forced out of business as the result of being unable to offer its customers the ability to call to and from the ILEC's network. Given the comparatively low share that any CLEC has today, the ILEC could largely continue with business as usual. Indeed, not only would the ILEC not be significantly harmed by the lack of interconnection with the CLEC, the ILEC would positively benefit from the weakening of competition and the diversion of customers to its own retail services.

18. The bargaining between an IXC and an ILEC is similarly one-sided. Because competition among local carriers is so limited, an IXC typically has only a single means of reaching the vast majority of potential subscribers in a given geographic area, the ILEC. A given ILEC, however, will be dealing with multiple IXCs and may be able to discriminate among them.[10] Indeed, in the future, SBC may be discriminating in favor of its own interexchange services. If an IXC cannot provide high quality service for calls that originate or terminate in a significant portion of the country, then that carrier can expect to lose significant amounts of traffic to rival IXCs. An ILEC that offers a particular IXC poor interconnection, however, faces much less of a threat that it will see the bulk of its customers turn to other local carriers. Thus, the bargaining positions of an ILEC and an IXC are asymmetric.[11]

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[10] As we discuss further below, while such discrimination would typically violate state and/or federal regulatory policy, such policies cannot be perfectly enforced.

[11] The bargaining power between the ILEC and a CSC could be one-sided for the reasons identified for both CLECs and IXCs.

19. The Commission itself has long recognized that ILECs possess substantial market power; indeed, this recognition is the basis of the Commission's regulation of interstate access charges as well as the terms of interconnection between ILECs and commercial mobile radio service providers.[12] Moreover, the interconnection provisions of Telecommunications Act of 1996 also are based on recognition of ILEC market power.[13]

B. Competitive Services Such as Sprint ION Will Increasingly Need Innovative New Access Arrangements With ILECs

20. Sprint ION is an innovative new service that promises to bring the benefits of an integrated package of advanced telecommunications services to millions of subscribers. Sprint ION is a combined service that has both local and long distance components for both data and voice. The service integrates traditional voice traffic, Internet traffic, frame relay traffic, and other data traffic on one customer access facility and carries this traffic in the Asynchronous Transfer Mode data format through the Sprint network.[14] For communications terminating to end users that are not Sprint ION customers, Sprint will convert the Sprint ION format to the formats needed to communicate with the non-Sprint ION customers at a Sprint Service Node.

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12 See, for example, *Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, CC Docket No. 95-185, *Notice of Proposed Rulemaking*, released January 11, 1996.

13 Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996). The 1996 Act amends the Communications Act of 1934, 47 U.S.C. §§ 151 et. seq.

14 For a more complete description of Sprint ION, see Affidavit of Kevin E. Brauer (*Brauer*

21. After an initial roll out period, Sprint plans to increase the functionality of Sprint ION service to include the ability to combine what had previously been local voice calling with other communications on the all-distance Sprint ION platform. Sprint ION will allow a customer to integrate its local service with all of its other services using a single access facility to the customer premises. Once fully deployed, Sprint ION can help bring competition to local exchange markets—something that, to date, has been almost non-existent.[15]

22. Innovative CSCs like Sprint are particularly vulnerable to exclusionary access policies by the ILECs because these CSCs need the timely availability of access services from the ILECs for which adequate regulatory safeguards do not exist. Sprint will rely on dedicated access to reach large customers and will offer Sprint ION to smaller customers through alternative means, such as xDSL. Sprint plans to implement xDSL by collocating its xDSL equipment in ILEC central offices in order to make use of ILEC unbundled loops.

23. The roll-out of Sprint ION requires innovative access arrangements for which there are not existing standards or benchmarks, and there are a variety of ways in which the ILECs can drag their feet or otherwise fail to provide high-quality access on efficient

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Affidavit) at 2-6.

[15] It is, however, important to recognize that, for the vast majority of residential subscribers, Sprint will remain dependent on ILEC to provide significant underlying local facilities.

terms. Three problems that have arisen and can be expected to worsen if the proposed merger is approved are: (a) the provision of Operational Support System ("OSS") capabilities; (b) access to ILEC central offices and other facilities so that a competitive carrier may collocate its equipment with those of the ILEC; and (c) the availability of suitably conditioned ILEC facilities that are provided on an unbundled basis.

24. With regard to OSS, Mr. Brauer of Sprint has testified that "OSS and related problems at the RBOCs (including SBC and Ameritech) result in a significant loss of revenue to Sprint due to delayed cut-over of service, loss of customers and damage to Sprint's reputation as a quality telecommunications provider."[16] The Commission itself is no stranger to the difficulties of setting OSS standards, as they have proved to be one of the more contentious issues in the 271 proceedings.

25. Turning to access to ILEC facilities, Mr. Brauer raises a number of concerns. For instance, many loops are behind Digital Loop Carrier ("DLC") equipment that prevents the provision of xDSL service on these loops. The RBOCs as a rule have refused to entertain requests to collocate CLEC equipment at RBOC DLC locations and to perform sub-loop unbundling for the twisted-pair copper from the DLC to the end user premises.[17] Other parties have raised concerns about collocation. For example, Covad Communications Company, a California-based digital subscriber line ("DSL") provider,

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16 *Brauer Affidavit* at 12.

17 *Brauer Affidavit* at 14-15.

has complained that its expansion efforts have been hampered by SBC's physical collocation practices. In comments filed with the Commission, Covad asserts that SBC had unilaterally declared that no space existed in at least 50 of the 165 central offices in which Covad had applied for collocation, but that it later became clear through an SBC ADSL Service tariff filing that SBC was able to find room for its own DSL equipment in 20 of those 50 central offices.[18,19]

26. The technical capability of ILEC facilities will be a particularly important issue when Sprint and others begin to use unbundled loops to provide xDSL service. Many existing local loops will require individual treatment in terms of conditioning in order to carry the high-speed digital signals directly to the customers' premises. Moreover, the ongoing performance of the conditioned loops depends largely upon whether interfering digital signals are carried within the same cable sheath or binder. The conditioning of the loops and the placement of digital signals within a binder group of loops provide two

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18 *In the Matter of Southwestern Bell Telephone Company, Pacific Bell, and Nevada Bell Petition for Relief from Regulation Pursuant to Section 706 of the Telecommunications Act of 1996 and 47 U.S.C § 160 for ADSL Infrastructure and Service*, CC Docket No. 98-91, *Comments of Covad Communications Company*, filed June 1998, 24, at 4-5.

19 SBC was eventually able to accommodate Covad equipment in many of these offices, but only after Covad filed an antitrust lawsuit for a preliminary injunction. See *In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, *Comments of Covad Communications Company*, filed September 25, 1998, at 6-7.

mechanisms through which an ILEC can degrade the quality of access services provided to Sprint and other CSCs or CLECs.[20]

IV. ILECS' PRIVATE INCENTIVES TO OFFER ACCESS AND INTERCONNECTION DO NOT ALIGN WITH THE PUBLIC INTEREST

27. In evaluating the public interest effects of the proposed merger between Ameritech and SBC, policy makers must take into account two fundamental points. First, even without the proposed merger, both SBC and Ameritech have unilateral incentives to exercise market power in the provision of access in ways that do not serve the public interest. Second, the proposed merger will increase these incentives. The remainder of this section examines these incentives in the absence of the proposed merger. Sections V and VI then examine the ways in which the proposed merger would increase SBC and Ameritech's incentives and ability to engage in anticompetitive behavior.

A. ILECs have Incentives to Exercise Market Power in the Provision of Access

28. A profit-maximizing ILEC has incentives to exercise market power in the provision of access services and, in the absence of effective regulatory constraints, will do so. Even if an ILEC did not compete downstream in either the local exchange, interexchange, or CSC markets, that ILEC would have incentives to exercise market power as a seller of access services by setting high prices. Moreover, because it does compete in the downstream

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20 *Brauer Affidavit* at 13-15.

markets, an ILEC has further incentives to raise the price and incentives to deny, delay or degrade the provision of access to its competitors as a means of disadvantaging these competitors.[21]

1. Monopoly pricing of access by an unintegrated access monopolist

29. The first reason why an ILEC may seek inefficient, non-competitive terms for access comes under the general rubric of monopoly pricing by an unintegrated access monopolist. An ILEC can be expected to elevate its access charges above costs to the extent that regulators and the elasticity of demand allow it to do so profitably. An ILEC with significant market power in the provision of access has the incentive to set monopolistic access prices in order to extract greater economic rents for itself. Thus, even an ILEC that did not compete with the carriers to whom it was selling access could be expected to charge inefficiently high prices for that access.[22]

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21 See, for example, Michael L. Katz, "Economic Efficiency, Public Policy, and the Pricing of Network Interconnection Under the Telecommunications Act of 1996," in *Interconnection and the Internet: Selected Papers from the 1996 Telecommunications Policy Research Conference*, G. Rosston and D. Waterman (eds.), Mahwah, New Jersey: Lawrence Erlbaum Associates, Publishers (1997).

22 When an ILEC has limited information about the exact economic value that each interconnecting provider places on access, the ILEC cannot transfer economic rents efficiently to itself from interconnecting carriers.

2. Raising rivals' costs with price and non-price exclusionary conduct

30. The second reason why an incumbent LEC may seek inefficient, non-competitive terms for the provision of UNEs, interexchange access, and transport and termination falls under the general heading of raising rivals' costs.[23] ILECs compete, or have plans to compete, against the carriers to whom they sell access services. At present, SBC and Ameritech compete with CLECs in the provision of local services (albeit to a limited extent) and with IXCs in the provision of intraLATA toll services. SBC and Ameritech also are planning to compete with IXCs and CSCs in the provision of interLATA services in the future. By raising the costs (or degrading the quality, or delaying or denying access)[24] of competing carriers' services, SBC and Ameritech can achieve, enhance, or maintain market power in the retail markets in which they compete with these disadvantaged rivals.

31. An ILEC has incentives to disadvantage actual and potential entrants in both the local exchange services and interexchange services markets in which it participates or plans to enter in the near future. While there are significant differences between local and long-distance markets in terms of the degree of competition and the role of ILECs, there is one common factor: ILECs control necessary access to the vast majority of telephone subscribers.

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[23] See, for example, S. Salop and D. Scheffman. "Raising Rivals' Costs," *American Economic Review Papers and Proceedings* 73 (May 1983):267; T. Krattenmaker and S. Salop, "Antitrust Analysis of Exclusionary Rights: Raising Rivals' Costs to Gain Power Over Price," *Yale Law Journal* 96 (December 1986):209.

[24] We refer to all of these forms of exclusionary conduct collectively as "raising rivals'

By denying efficient access to CLECs and CSCs, an ILEC is able to sustain its market power in the provision of local exchange services.[25] The vigor with which ILECs have used legal and regulatory maneuvers to resist the introduction of competition suggests that their current market positions are very valuable. By denying efficient access to IXCs and CSCs, an ILEC also may be able to create an artificial—and profitable—competitive advantage for its own in-region interexchange operations.

32. Rivals may be disadvantaged in a number of ways, by both price and non-price means. One way to raise rivals' costs is to increase the charges for access. A firm generally benefits from an increase in the marginal costs faced by its rivals because such cost increases raise the rivals' profit-maximizing prices and reduce their profit-maximizing output levels at current prices. And raising the costs of *potential* rivals may delay or deter their entry. Put another way, by charging its competitors more for originating and completing their customers' calls, an ILEC can drive up the retail prices of these competitors, to its own benefit and consumers' detriment. In addition, by disadvantaging CLECs and CSCs that might themselves offer access services, the ILEC also maintains its market power in the provision of access services in the upstream market. Thus, an ILEC can have incentives

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costs."

25 This incentive to exclude CLECs and CSCs exists even before Section 271 approval is granted to the ILEC. For a further discussion of the constraints created by Section 271, see ¶59 below.

to charge wholesale access prices above the monopoly prices that would have been set by an unintegrated access monopolist that did not compete with its customers.[26]

33. A second general method of disadvantaging rivals is by denying, delaying, or degrading provision of the access needed to support the services these competitors provide to consumers. As discussed in Part III.B above, there are many different ways in which an ILEC can disadvantage its rivals through its control of essential access services and facilities. For example, consider a CSC with an innovative new combined service that it would like to offer in competition with an ILEC. Suppose this CSC entrant can offer the service efficiently only if it obtains a particular type of access arrangement from the ILEC. The ILEC's refusal to provide that access in a timely fashion could destroy the entrant's ability to compete. In less extreme circumstances, this refusal will raise the entrant's cost of competing or reduce the quality of its service offerings. Either way, the CSC will be a weaker competitor in both the local exchange and interexchange markets, permitting the ILEC to profit in both of these markets. As discussed in Part IV.D below, this second type of exclusion is very hard for policy makers to monitor, and we believe that it is impossible for policy makers fully to prevent abuse. As regulators succeed in

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[26] It does not automatically follow that any vertically integrated firm will want to disadvantage its customers in order to promote its own downstream division. The integrated firm must balance the foregone profits from lost upstream sales against the increased profits of its downstream division. Under some conditions, it will not be profitable to elevate the input price charged to downstream rivals. We address the specific incentives of SBC and Ameritech in the downstream markets below.

holding down the charges for various types of access services to lower levels, an ILEC gains the incentive to employ these non-price means to raise rivals' costs.[27,28] The threat of non-price exclusionary conduct is particularly strong against CSCs that require innovative access arrangements that are the most difficult for regulators to monitor effectively. And, as a new entrant trying to roll out its services rapidly on a nationwide basis, a CSC is very vulnerable to ILECs' actions that delay or degrade the CSC provider's ability to offer service.

B. A Formal Model of ILEC Incentives to Exclude Competition with Exclusionary Access Policies

34. In this part, we develop a simple, formal analytic framework and apply it to the issue of exclusionary conduct directed at competing CLECs, IXCs, or CSCs. As discussed earlier, SBC and Ameritech have and will continue to have substantial market power in the provision of access services required by CLECs, IXCs, and CSCs. For any

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27 If access and interconnection prices were fully unregulated, then the ILEC may not have the incentive to use these non-price means of exclusion. This conclusion follows from the fact that increasing the price of access generates increased revenue in the upstream market at the same time that it disadvantages rivals in the downstream market. Note that in situations where price discrimination is infeasible but non-price discrimination is not, the ILEC may have the incentive to use non-price means of exclusion even when interconnection fees are unregulated.

28 There is considerable evidence of exclusionary conduct by the ILECs. For a discussion, see Declaration of Stanley M. Besen, Padmanabhan Srinagesh, and John R. Woodbury, "An Economic Analysis of the Proposed SBC/Ameritech Merger," October 14, 1998.

unregulated access services,[29] SBC and Ameritech will have the ability to raise access prices in order to disadvantage rivals. For regulated access services, SBC and Ameritech will have the incentive to raise competitors' costs by denying, delaying, or degrading access, if regulators cap access prices sufficiently below the (integrated firm) monopoly price.

35. By engaging in non-price exclusionary conduct, SBC and Ameritech sacrifice profits from the sale of wholesale access in return for increased market power in the provision of local exchange, interexchange, and combined services. The carriers also run the risk of incurring regulatory sanctions in the event that the regulators are able to detect and punish this exclusionary conduct.[30] To choose the degree to which to carry out such exclusionary conduct, an ILEC must balance the benefits of exclusion against these costs. In part, the benefits depend on the way in which the ILEC exercises the increased market power that results from exclusionary conduct. In this section, we develop two expressions for the ILEC's incentives to engage in non-price exclusionary conduct, which we refer to as the *relative-margin incentive* and the *increased-price incentive*.

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29 For example, certain broadband access services might not be regulated in the future.

30 As discussed below, the ability of regulators to detect exclusionary behavior is limited. However, the greater the extent of exclusionary conduct, the more likely it is that the ILEC will be caught and punished.

1. The Relative-Margin Incentive

36. The *relative-margin incentive* is based on a scenario in which the ILEC increases its retail unit sales at current prices in response to the weakening of competition. Suppose that SBC pursues this strategy. In this case, the exclusion permits SBC to replace upstream sales of *access* to competitors with a certain quantity of downstream *retail* sales to end users.[31] Algebraically, we can express this relationship as

$$Gain\ from\ Exclusion = \Delta Q^r \times m^r - \Delta Q^a \times m^a \quad . \qquad \text{(eqn. 1)}$$

where ΔQ^r is the additional retail traffic that SBC gains as a result of the exclusionary behavior, m^r is the margin (price minus incremental cost) that SBC earns on those retail services, ΔQ^a is the volume of access services that SBC loses as a result of the fact that rivals no longer purchase as much access when SBC engages in exclusionary behavior, and m^a is the margin that SBC would have earned on those access services. In other words, Equation (1) implies that, if the incremental retail business gained is more profitable than the incremental access business lost, then SBC would have incentives to exclude its rivals in the particular retail segment.

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[31] This condition is sufficient, but not necessary. Even if this scenario is not profitable at current prices, it nonetheless may be profitable to exclude if SBC increases its retail price somewhat instead of increasing its output by the full amount of the reduction in its rivals' output. For regulated services facing new competition, preventing price from falling is treated as a price increase.

37. This general framework can be applied to exclusionary access conduct directed towards the CLECs, IXCs, and CSCs. When excluding CLECs, SBC sacrifices wholesale access volume and revenues, but gains retail local exchange volume (both in terms of lines and, in the case of local measured service, minutes).[32] When excluding IXCs, SBC trades the loss of switched and special access traffic against the gain in retail long distance traffic. When excluding CSCs, increased local and long distance profits are weighed against lost access profits. Moreover, as access charges are adjusted toward cost-based levels, m^a will fall and the ILEC's incentive to engage in non-price exclusionary conduct will rise.

38. The change in profits also has to be balanced against the risk of regulatory sanctions. Let S denote the expected sanctions when the ILEC engages in amount d of exclusionary behavior. One would expect S to rise as d rises for two reasons. One, the probability of detection will increase as the behavior becomes more egregious. Two, the penalties levied upon detection may increase in the level of activity undertaken. To capture this relationship between S and d, we write $S(d)$. The volume changes will also depend on d, so we express them as $\Delta Q^r(d)$ and $\Delta Q^a(d)$. Using this notation, SBC has incentives to choose the level of exclusionary conduct to maximize its gains net of enforcement costs,

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[32] In the longer run, the SBC may not be sacrificing much wholesale traffic. By disadvantaging the CLECs, SBC can raise barriers to entry into the *access* market and

$$Net\ Gain = \Delta Q^r(d) \times m^r - \Delta Q^a(d) \times m^a - S(d) \quad . \quad \text{(eqn. 2)}$$

39. One can express this simplified scenario in more detail to facilitate computation of a particular ILEC's incentives to engage in exclusionary conduct. Suppose that SBC delays, denies, or degrades the provision of access by amount d, and these actions lead its competitors in one of the retail markets to reduce their collective retail unit sales by $\Delta Q(d)$ at the current retail price. Suppose that a fraction, δ, of these sales are diverted to SBC at the current retail price; in other words, SBC's unit sales rise by $\Delta Q^r = \delta \Delta Q(d)$. The proportion δ is known as the *diversion ratio*.[33] If the services are perfect substitutes, then $\delta = 1$. For differentiated products, $\delta < 1$.

40. The increase in d will also reduce SBC's sales of access minutes to other carriers; as they cut back their retail sales, other carriers will have less demand for SBC access services. We use λ to denote the amount of access traffic that SBC loses due to its exclusionary behavior, expressed as proportion of the retail traffic that the disadvantaged carriers lose.[34] The value of λ calculated over all lost traffic will depend on the mix of traffic. Using this notation, we have $\Delta Q^a = \lambda \Delta Q(d)$.

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better maintain its market power in the provision of these services.

[33] For additional discussion, see Carl Shapiro, "Mergers with Differentiated Products," *Antitrust* (Spring 1996):23.

[34] Suppose, for example, that SBC has received Section 271 approval and disadvantages all other IXCs purchasing access services from it. Further, suppose that these carriers cut back their retail sales by 100 minutes and that carriers reduce their purchases of access

41. Armed with this new notation, we can re-write Equation (2) as

$$Net\ Gain = \Delta Q(d) \times \{ \delta \times m^r - \lambda \times m^a \} - S(d) . \qquad \text{(eqn. 3)}$$

As long as the *relative margin*, $\delta \times m^r - \lambda \times m^a$, is positive and it is difficult for regulators to detect a small increase in exclusionary conduct, SBC has incentives to raise rivals' costs.[35]

2. The Increased-Price Incentive

42. A second sufficient condition for the profitability of raising rivals' costs also can be formulated. The *increased-price incentive* is based on a different scenario in which SBC exercises its increased market power (which results from its exclusionary conduct) by holding its output fixed and obtaining a higher price (than would occur otherwise). As in the previous scenario, exclusion that reduces rivals' retail output by $\Delta Q(d)$ units reduces SBC's sales of access by $\Delta Q^a = \lambda \Delta Q(d)$ units, and thus reduces its access profits by $\lambda \Delta Q(d) \times m^a$. The difference between the two scenarios comes in the retail market. Now, instead of increasing its output level, SBC gains from a price increase, $\Delta p(d)$, times

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from SBC by 150 minutes. Then, in this example, λ would be equal to 1.5 (*i.e.*, 150/100).

[35] If the access price were unregulated and price discrimination were feasible and unconstrained, then the incentive to exclude by degrading, delaying, or denying access would disappear because SBC would increase the price of access (and thus m^a) instead. As noted earlier, restrictions on the access margin increase the ILEC's incentives to engage in non-price exclusionary conduct.

the SBC's output in the retail market Q_i. The gain in retail profits is thus $Q_i \times \Delta p(d)$.[36] Taking the expected sanction, $S(d)$ into account,

$$Net\ Gain = Q_i \times \Delta p - m^a \times \lambda \times \Delta Q(d) - S(d)\ . \qquad \text{(eqn. 4)}$$

43. Even if regulators capped retail prices at levels leading to a retail margin so low that the *relative-margin* incentive were negative, the *increased-price incentive* still may be satisfied. This latter incentive may also be satisfied even when regulators prevent the ILEC from raising retail prices. This outcome is possible because exclusionary access policies raise or maintain barriers to entry and expansion. These barriers can permit the ILEC to profitably maintain the current regulated price rather than being led to *reduce* retail prices to meet the threat or actuality of new competition. In this way, the ILEC's exclusionary conduct prevents price from falling to a lower, more competitive level. Deterring such price decreases is, of course, an exercise of market power.[37]

44. It also is important to emphasize that these expressions may understate actual incentives. They are based on the assumption that the ILEC exercises its market power either (a) solely by increasing output at the current price, or (b) solely by taking a higher price (or forestalling a price decrease) on current output. These calculations ignore the

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[36] David S. Sibley and Dennis L. Weisman, "The Competitive Incentives of Vertically Integrated Local Exchange Carriers: An Economic and Policy Analysis," *Journal of Policy Analysis and Management* 17 (1998):74, take a similar approach.

[37] See Krattenmaker, Lande and Salop, *supra* note 3. In what follows, we will include in the meaning of "raising price" the conduct of "preventing price decreases."

potential for the ILEC to choose a possibly more profitable intermediate combination of higher price and higher output.

3. An Illustrative Example

45. This part illustrates the *relative-margin incentive* in a calibrated simulation to show that an ILEC can have significant incentives to engage in exclusionary conduct. The particular example considered involves an ILEC delaying the provision of essential facilities required by a hypothetical CSC planning to offer single-line business customers a bundle of local and long distance services.[38] The ILEC's net gains from delaying or deterring the hypothetical CSC's entry are computed below. These computations are illustrative. A given ILEC's incentives to exclude a rival depend, in part, on the business models of both the ILEC and the specific rival, so we first discuss those business models. We then compute the ILEC's upstream and downstream margins to allow calculation of the *relative-margin incentive*.

46. The hypothetical CSC has a business model in which its usage-sensitive charges mirror those of current ILEC and IXC usage-sensitive charges, but the monthly fees are lower than those charged by the ILEC and IXCs.[39] As a consequence, we assume that the

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[38] Actual CSCs are expected to build networks that can offer the full range of local and long distance services that are available from LECs and IXCs today plus new advanced services and applications that can be used when *both* ends of the call are directly attached to a CSC network. We return to the effects of these additional services below.

[39] Subscribers might also be attracted to the CSC by the convenience of integrated billing if the ILEC cannot offer this feature.

usage pattern of a given customer will not change when he or she shifts to the CSC.

47. Suppose that the CSC offers its bundle of local and long distance services over a mix of owned facilities and UNEs leased from the ILEC. In particular, the CSC is assumed to: (a) own its long-distance network;[40] (b) provide service over unbundled loops purchased from the ILEC; (c) provide its own local switching; and (d) use transport leased from a CAP.

48. The ILEC in our hypothetical example is assumed to provide local services and in-region long distance services over its own network facilities.[41] The ILEC is assumed to purchase bulk long distance minutes from an IXC to transport calls from its subscribers that terminate outside of the ILEC's region.[42] The ILEC earns terminating access charges on long-distance calls from subscribers outside the ILEC's region to its local exchange subscribers. In addition, the ILEC earns interstate and intrastate access charges on in-region calls originated by other carriers operating in its region, and it pays applicable terminating access charges to other carriers whose in-region subscribers are called by

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40 Equivalently, the CSC could lease a network or purchase bulk capacity from a carrier other than the ILEC.

41 Local calls from the ILEC's subscribers to competing CLECs are assumed to be in balance and reciprocal compensation rates are assumed to be symmetric. Thus, the ILEC's payments for originating local calls that terminate on CLEC networks equal the payments ILEC receives for terminating calls that originated on CLEC networks.

42 These calls are terminated over the facilities of the access providers serving that region, and terminating access charges are paid on this traffic.

ILEC customers.[43]

49. We next evaluate the *relative-margin incentive* in this example. We assume that the ILEC engages in exclusionary conduct by delaying or denying the provision of conditioned unbundled loops that the CSC needs to serve single-line business customers. As a result, the CSC's subscriber growth (in terms of number of customers) is reduced. We assume that the ILEC expands its own output to make up for the reduced output of its competitor, leaving the usage-sensitive market price for the various retail services unaffected.[44]

50. Based on the assumptions described in more detail in the Appendix A, we find that in the retail market, the ILEC gains monthly revenue of approximately $89.50 per subscriber diverted from the CSC. These revenues are derived from the sale of both local and long-distance service. Our underlying assumptions lead to the ILEC's having retail costs of about $37.50 per subscriber per month. The resulting retail margin is approximately $52.00 per month per customer diverted from the CSC.[45]

51. On the wholesale side, for every customer diverted from the CSC, the ILEC

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[43] As with local calls, intra-region traffic is assumed to be in balance and net payments are assumed to be zero.

[44] Note that consumers are worse off as the result of the ILEC's exclusionary behavior—they are denied the benefits of the lower monthly charge and the convenience noted in footnote 39 *supra*.

[45] In explaining this scenario, we find it clearer to include the profits from terminating access in the retail side of the incentive. Only the unbundled loop margin is included on the

sacrifices the margin earned on an unbundled loop. We assume that the price per loop is $14.50 and the long run incremental cost is $12.00. Thus, the assumed wholesale margin is $2.50. If instead we used short-run marginal cost (which is assumed to be zero), then the upstream margin would equal $14.50.

52. Applying these assumptions to calculation of the *relative-margin incentive*, we find that the exclusion is highly profitable. Using either short-run or long-run incremental costs, the retail margin is substantially larger than the access margin. The retail margin exceeds the access margin by approximately $37.50 (*i.e.*, $52.00 – $14.50) even taking the marginal cost per loop to be zero.[46] The difference rises to approximately $49.50 (*i.e.*, $52.00 – $2.50) in the longer run, using the long run incremental cost for the loops. Given the way in which we have parametrized our example, $\lambda = 1$.[47] Substituting the relevant values into Equation (3) shows that, when the diversion ratio is equal to unity, exclusionary conduct increases profits in the absence of detection and regulatory sanction.

53. Even if the ILEC does not capture all of the customers lost by the CSC (that is, even if the diversion ratio δ is less than one), it is still likely that exclusion would be

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wholesale side. This choice of labeling has no effects on the conclusions.

[46] This comparison uses the long-run incremental cost of the loop ($12) when computing the retail margin, and the short-run marginal cost ($0) of the loop in computing the wholesale margin, and thus is conservative.

[47] This follows from the assumption that the CSC reaches each of its customers through an

profitable. Ignoring the risk of sanctions, as long as the diversion ratio exceeds 28 percent, the exclusion is profitable using the short-run marginal cost of loops. Using long-run costs, exclusion is profitable as long as the diversion ratio exceeds 5 percent. The diversion ratio is likely to be much closer to unity in the light of the ILECs' near-monopoly positions in local exchange markets and the likelihood that they would disadvantage all of their CSC rivals simultaneously. Thus, the ILEC in this example would likely have strong incentives to delay or deny the provision of unbundled loops to the CSC. These exclusionary incentives would then have to be balanced against the risk of regulatory detection and sanctions. In the light of imperfections of regulation, the fear of regulatory sanctions is unlikely dominate the incentives to exclude.

54. While the scenario is hypothetical, the example suggests that ILECs like SBC and Ameritech can have significant incentives to engage in exclusionary behavior even in the absence of the merger. As shown in Section V, these incentives would be even larger if the proposed merger were allowed to be consummated.

C. The Exercise of ILEC Market Power Harms Efficiency, Competition, and the Public Interest

55. Competing telecommunications providers obviously are harmed when an ILEC has significant market power and exercises that power by setting inefficiently high monopolistic access prices or by denying, delaying, or degrading the access below the efficient level. The

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unbundled loop purchased from the ILEC.

adverse effects on consumers and efficiency go beyond this harm to competitors. These broader adverse effects raise serious public policy concerns. The market suffers efficiency losses because the incentives to invest in R&D and physical infrastructure to provide these competitive local and long-distance services are reduced. Moreover, the costs of retail services will be increased, which can be expected to raise the retail prices paid by consumers and thus lower consumer welfare and suppress output below efficient levels.

D. Regulators Will Be Unable to Prevent the Anticompetitive Exercise of ILECs' Market Power Over Innovative New Access Arrangements

56. In the light of these welfare-reducing effects of this exclusionary conduct, there is a public interest in limiting such behavior. This is, however, very difficult for regulators to do for two fundamental reasons. First, as discussed in the remainder of this part, regulation is imperfect at detecting and correcting such conduct, particularly for new and innovative forms of access. Second, as discussed in Section VI below, the potential for continued consolidation of the large ILECs will further reduce policy makers' ability to exercise effective oversight. SBC and Ameritech have argued that, even if there were problems with the potential exercise of market power, regulatory oversight could sufficiently handle any potential problems.[48] Analysis of the facts indicate otherwise.

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[48] See, *Merger of SBC Communications Inc. and Ameritech Corporation: Description of the Transaction, Public Interest Showing and Related Demonstrations*, filed with the Federal Communications Commission, July 24, 1998, at 90-91. "Within SBC's or

Even if the Commission were to believe that it can prevent serious abuses in the standard provision of "plain vanilla" interexchange access—a position that some market participants might dispute—future interconnection and access issues will be much more difficult to resolve.[49] For existing interLATA arrangements, policy makers have built up experience over a number of years in detecting and addressing problems with the provision of access. The development of performance standards has been facilitated by the possibility of benchmarking, whereby the performance of one ILEC is judged in comparison with the performance of other ILECs. In this regard, it is significant that these standards were set when ILECs had less incentive to engage in exclusionary or discriminatory behavior than they do in the present economic and regulatory environment.

Ameritech's regions, the merger will not in any way alter or diminish the ability of others to compete in local exchange markets. Neither competitors, state commissions nor this Commission will allow any backsliding in the market-opening process."

[49] For example, a recent affidavit submitted by Dale Hatfield observed that the ILECs have been substantially increasing the extent to which their networks are intelligent, a change that increases the ILECs' ability to tailor their services to individual customers. "But this very ability to customize means that the BOCs or other [ILECs] can 'fine tune' their local exchange networks to favor (a) their own interexchange operations over their interexchange carrier competitors and/or (b) their own end user customers over the end user customers of their interexchange competitors. Stated another way, the incumbent local exchange carriers, including Ameritech, will have additional--and generally more subtle--methods of discrimination available to them." [Note omitted.] Affidavit of Dale N. Hatfield on Behalf of MCI Telecommunications Corporation, Before the Federal Communications Commission, *In the Matter of Application of Ameritech Michigan Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA services in Michigan*, CC Docket No. 97-137 (June 5, 1997), at 15.

57. The situation is quite different for access between ILECs and CLECS, and for access in support of new interexchange and combined services. Access arrangements between ILECs and local service providers are far from fully set in place. Both market participants and regulators have little experience with how these arrangements will work under commercial conditions. Moreover, as both local and long distance service providers launch new services, there will be a variety of new, innovative access arrangements needed to facilitate xDSL and other new technologies. For these arrangements, policy makers do not have the benefit of long experience in detecting and correcting problems. Nor have policy markers had the chance to develop comprehensive performance standards. Further, the information needed to regulate ILEC behavior may be extremely difficult to obtain. How, for example, would the regulators rapidly determine that an ILEC was leaving unused (or underused) equipment in a central office in order to block CLEC or CSC collocation? And what sort of rules would govern interference among digital signals in a binder group? In addition, as discussed in more detail in Section VI below, the merger will make benchmarking more difficult by reducing the number of ILECs and distorting their incentives. For all of these reasons, if SBC were to refuse to provide efficient new access arrangements, delayed or slowed deployment, or reduced the quality of the access below the efficient level, regulators would face significant difficulties detecting the distortions and inducing SBC to correct its misbehavior.

58. The fact that SBC and Ameritech must obtain Section 271 approval before providing interLATA services does not change this conclusion. Unless the Commission interprets the Section 271 standard as requiring that a Bell company face very substantial actual local exchange competition before being allowed to offer in-region interLATA services, a Bell company's meeting this standard will not imply that the company has a non-dominant market position. In all likelihood, CLECs and CSCs will remain dependent on the ILEC for the UNEs they need to compete long after Section 271 approval has been granted. And CLECs, CSCs, and IXCs will remain dependent on the ILEC for various other access services as well. All of the problems of detection and enforcement discussed above will arise whether or not Section 271 approval has been granted. And, perhaps most important, all of these problems will occur for the significant interim period prior to the granting of Section 271 approval.

59. In summary, the roll-out of Sprint ION and similar services by competing carriers is threatened by exclusionary behavior by ILECs. Long, drawn-out litigation and regulatory proceedings will not resolve the issues soon enough to facilitate the rapid entry and expansion that Sprint has planned.[50] This is unfortunate because such entry would help to bring increased competition to local exchange markets. While policy makers should not give up trying to limit exclusionary conduct through direct oversight, it is important to ensure that competitive market forces can be used wherever possible. And it

is equally important that market conditions not be allowed to deteriorate in ways that increase the incentive and ability of ILECs to exercise market power. As the next section explains, blocking the proposed merger is one way to promote competitive market forces and limit the incentives and ability for SBC and Ameritech to carry out exclusionary conduct.[51]

V. THE PROPOSED MERGER WOULD INCREASE SBC AND AMERITECH'S INCENTIVES AND ABILITY TO EXCLUDE RIVALS BY DENYING ACCESS

A. Exclusion By One ILEC Benefits Other ILECs

60. In the light of the strong network effects and the ILECs' dominant position as providers of local loop services, the ILEC provision of access services to other carriers under reasonable terms is essential to the ability of rivals to compete effectively in the local exchange and interexchange markets. As already discussed, ILECs have an incentive to raise rivals' costs in order to achieve, maintain or enhance market power in the provision of local exchange and interexchange services. The proposed merger between SBC and Ameritech would increase their incentives to disadvantage CLEC, CSC and IXC competitors by foreclosing them from efficient access at reasonable prices.

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50 *Brauer Affidavit* at 20.

51 Moreover, as discussed in Section VI below, blocking the proposed merger will preserve competitive benchmarks as a means of using market-generated information to improve the regulation of all large ILECs.

61. The basic logic underlying this anticompetitive effect of the proposed merger is straightforward. In many instances, rival carriers require access from multiple ILECs in order to compete efficiently. The merger of two ILECs increases their incentives and ability to foreclose access to competing carriers because it allows each ILEC to capture the anticompetitive benefits that spillover to the other ILEC.

62. When a competing carrier's ability to serve customers depends upon its ability to obtain efficient access arrangements at reasonable prices from multiple ILECs, the degradation, delay, or denial of access in one ILEC's region may weaken the competing carrier in the region of another ILEC. Because of these multi-market effects, one ILEC's exclusion of competitors from efficient access will create anticompetitive benefits for other ILECs. For example, when SBC raises the cost of access to the IXCs, CLECs or CSCs in its region, SBC's foreclosure action may weaken the rivals' ability to offer services in Ameritech's region as well. If so, Ameritech derives an anticompetitive benefit from SBC's exclusionary conduct. Of course, before the merger, SBC would not take this spillover benefit to Ameritech into account. However, after the merger, SBC will take this spillover benefit accruing to Ameritech into account. As a result of internalizing these spillovers, SBC's incentives to raise rivals' costs would be increased. Similarly, the merger would raise the merged entity's incentives to engage in exclusionary behavior in Ameritech's region.

63. Thus, this analysis predicts that the merger would lead both SBC and Ameritech to search for new methods to exclude competitors and intensify their exclusionary conduct.

This may mean more significant denials of access by both divisions of the merged entity, further delays in granting access, and lower quality access than would have been provided absent the merger.[52] The fact that SBC and Ameritech may have incentives to exclude without the merger does not alter this conclusion. Worsened incentives will mean more exclusion as each division is willing to undertake a greater risk of regulatory sanctions in return for the increased rewards from successful exclusion.[53]

64. As a result of this increase in exclusionary conduct, rival carriers will be injured and will become less formidable competitors to the ILECs than they otherwise would.

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52 SBC might argue that the merger reduces the amount of exclusion in that the merger would lead SBC to stop following an exclusionary policy towards Ameritech in markets in which they compete (such as the interexchange market), and vice versa. This could be a beneficial effect of the merger. However, it should not be given much weight by policy makers for two reasons. First, it will be offset by the increased exclusion of other competitors. Second, it would turn policy on its head to reward an ILEC's exclusionary conduct by permitting it to acquire its victims. This policy would increase SBC's incentives to exclude other rivals even more intensely because doing so would increase its ability to exclude others as well as lower the cost of acquiring them.

53 Our analysis demonstrates that the merger increases SBC's benefits of exclusion as a result of internalizing the anticompetitive benefits that spillover to Ameritech, and vice versa. As benefits increase, SBC's benefit-cost balance likely will lead it to expand its efforts to exclude rivals. In principle, these increased benefits could be offset by increased regulatory sanctions in the event that exclusion is detected. However, state regulators in (say) Texas are unlikely to bring sanctions against SBC for exclusionary conduct towards CLECs or CSCs in (say) Illinois or Connecticut. Nor has the Commission shown any inclination to increase regulatory sanctions in response to mergers. Moreover, even if this scenario were plausible, there are offsetting effects. In particular, SBC may have economies of scope in defending itself from such charges in multiple state proceedings. And, even if there is a chance of sanctioning SBC, entrants may not be willing to wait around at a disadvantage for the outcome of the proceedings. In any case, the whole point of encouraging CLEC and CSC entry is to reduce the need for regulation over time; it is not to expand the need for regulation by permitting mergers that enhance the ILECs'

Consumers also will be harmed as competition is weakened. Service prices likely will be higher, and qualities and choices will be lower, leading to a reduced level of consumer welfare. To the extent that the disadvantaged competitors have differentiated products or would have lower costs or higher quality than the ILECs in the absence of discrimination, efficiency will be reduced and consumer harm will be further magnified.

65. The merger of SBC and Ameritech also will increase their *ability* to engage in exclusionary conduct that raises rivals' costs in three ways.[54] First, the regulators will no longer be able to monitor, detect, and prove the existence of exclusionary conduct by SBC by using Ameritech's conduct as a benchmark, or vice versa. Second, after the merger, SBC and Ameritech may gain the ability to coordinate and rationalize their exclusionary conduct to make detection and proof more difficult.[55] By controlling both ends of access, the integrated company may be better able to evade regulatory oversight of the quality of the access it provides by better rationalizing its exclusionary tactics.

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incentives to exclude.

[54] In addition to the issues discussed here, the increased *incentive* to exclude discussed already can be stated as an increased *ability* to exclude. If one treats the merger as SBC acquiring Ameritech, then SBC gains an increased *ability* to exclude SBC's interexchange rivals by raising their costs of interconnecting to the Ameritech local exchange network. In the previous paragraph, we treated these effects as an increase in Ameritech's incentive to exclude, rather than as an increase in SBC's ability to exclude. Regardless of how it is stated, the effect is the same. Rivals' costs will be raised, or their service quality reduced, leading to reduced competition in the interexchange market.

[55] While SBC and Ameritech emphasize the possible sharing of "best practices" post-merger, they may well share "worst practices" (from a public interest perspective) too.

Finally, SBC may benefit from economies of scope in fighting regulatory battles in multiple state forums.[56]

B. The Sources of Anticompetitive Spillovers

66. Because of their importance in understanding how the proposed merger would increase SBC and Ameritech's incentives to engage in exclusionary conduct, we examine the cross-market linkages that give rise to anticompetitive spillovers. We will then develop the logic more fully using graphical and algebraic analysis.

1. Exclusion of Rival IXCs

67. Competing carriers' dependence on multiple ILECs is most easily seen in the case of IXCs, so we begin with them. An IXC providing traffic among regions requires an interconnection at both ends of the call. If the ILEC providing terminating access to the IXC denies or degrades that access, then an ILEC competing with the IXC to offer long distance service at the originating end also will benefit. Thus, in the interexchange market, an exclusionary access policy by one ILEC towards IXCs will spill over and benefit other ILECs in other regions.

68. Consider the case of foreclosing efficient interconnection to rival IXCs. IXC competitors require access to the local exchange network from two regions, the region in

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[56] In addition, to the extent that state proceedings do not take place simultaneously, SBC can gain a reputation among entrants as a firm that excludes rivals, and thereby may deter the entrants from attempting to enter to begin with, or it may slow down their entry plans.

which the call is originated and the region in which the call is terminated. In most cases, IXCs will have to purchase access from the respective ILEC. As a result, foreclosing the IXCs from efficient interconnection in its region will raise rivals' costs and thus may give the ILEC in that region market power in the downstream interexchange market in that region. This market power may be exercised with a higher interexchange market share, higher price or some combination of the two. Moreover, the IXC competitors in Region 2, whose calls originate in Region 2 and terminate in Region 1, are disadvantaged by inferior terminating access in Region 1. It follows that, if ILEC 1 forecloses the IXC competitors in Region 2 from efficient terminating access in Region 1, then those IXCs also will be placed at a competitive disadvantage in Region 2, providing an anticompetitive benefit to ILEC 2. Exclusion of the IXC competitors by ILEC 2 provides an analogous benefit to ILEC 1.

2. Exclusion of rival CLECs

69. Exclusionary access policy by one ILEC directed toward multi-market CLECs can also benefit other ILECs. This will occur when harming the CLECs in one region weakens their ability or incentives to compete in another region. That is, if a CLEC suffers lower quality or higher costs, reduced market share, and lower profitability in one region, those factors will reduce the likelihood that it enters other regions as well. Even if the exclusionary conduct in one market does not deter CLECs' entry altogether, it may lead the CLECs to enter at a lower scale, with higher prices, or reduced service offerings. Either way, the CLECs will become less of a competitive threat to both ILECs.

70. These cross-region effects can arise for several reasons. First, even if the multiple local markets are distinct, there may be common research, product development, supporting software development, and promotional costs for a CLEC entrant.[57] In deciding whether to enter the business at all, a potential carrier will evaluate its overall expected profits for entry. Thus, the potential entrant would take the sum of its expected market-specific profits across all of the areas into which it is contemplating entering and compare this sum with the development and other common costs. If the market-specific profits sum to less than the required return on their capital and common costs, then entry will be unattractive. Thus, an ILEC's actions that reduce the profitability of entry in one region can lower the likelihood of entry in all regions.

71. Exclusionary actions also may reduce the speed with which a CLEC finds its profitable to enter or the extent to which a CLEC finds it profitable to make investments that improve its service quality. Suppose that the exclusion reduces the potential customer base in the first region for a CLEC. That lower potential customer base means that its rate of return on investments will be lowered. For example, suppose that a contemplated investment in product quality would allow a CLEC to increase the number of people that would be attracted to its service. If its potential customer base is reduced by exclusionary conduct in the first region, then fewer new customers can be obtained and it

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[57] For example, SBC itself emphasizes in its filing that there are significant development and roll-out costs for local entry that can be spread across markets if an entrant pursues a

would earn a lower return on that investment. As a result, the investment may not earn a large enough return to justify undertaking it. In that case, potential new customers in the second region also would be denied the quality improvement, so the CLEC would not be able to expand there either. Thus, the ILEC in the second region will gain from the exclusionary conduct of the ILEC in the first region.

72. There also may be economies of scope associated with offering service in multiple local markets that affect variable costs (*e.g.*, reduced costs of obtaining certain pieces of equipment whose use varies with the number of subscribers or calling volume). In this case, exclusion that reduces the entrant's volume in one market increases the entrant's variable costs in the other markets in which it is competing.

3. Exclusion of rival CSCs

73. Exclusionary access policy by one ILEC directed towards CSCs can weaken them across other regions for the reasons identified for both IXCs and CLECs above. First, as with IXCs, a CSC may need terminating access from multiple ILECs. Second, a CSC may be offering advanced services that are subject to service-specific network effects (*i.e.*, each service derives value from the fact that it is offered in a lot of places and allows many end users to communicate with one another). Exclusionary tactics in one region can weaken a CSC's ability to sell its entire suite of combined services in other regions

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multi-market strategy. See Affidavit of James S. Kahan, July 20, 1998.

by reducing customers' perceived quality of the advanced services that are included in that suite. These effects arise when on-net features do not extend to off-net communications. Third, as with CLECs, even if the multiple local markets are distinct, there may be common fixed costs across markets, joint investment decisions, or other sources of economies of scope.

74. Sprint ION is an example of a combined service that exhibits such multi-market dependence. Denying appropriate collocation, integration of OSS, and other tactics will weaken Sprint's ability to offer its ION suite of combined services. The full roll-out of Sprint ION will trigger the need to spend hundreds of millions of dollars for billing systems and other software platforms, centralized databases, centralized network engineering and monitoring facilities, and national advertising.[58] For example, just the software to run the Sprint Service Nodes has an estimated cost of $100 million.[59] Multi-market effects also arise because Sprint will have to bear higher costs to carry traffic for which one end is forced to either originate or terminate off of the Sprint ION network as a result of SBC exclusionary conduct.[60]

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58 These common costs are discussed in much greater detail in the Affidavit of Gene Agee, October 14, 1998 ("*Agee Affidavit*") at 7-9.

59 *Agee Affidavit* at 8.

60 These costs arise from the need to translate the transmission. See *Agee Affidavit* at 12.

C. Graphical Analysis

75. The incentives to pursue such a vertical foreclosure strategy—and the ways in which the merger increase the incentives to exclude—can be illustrated graphically. The impact of the merger in internalizing anticompetitive spillovers is illustrated in Figure 1. The top diagram shows the profitability to ILEC 1 in its downstream market from increasing the effective cost of competing CLECs, IXCs or CSCs. Profits are maximized when ILEC 1's marginal benefits of exclusion equal the marginal costs. Non-price exclusionary access conduct is costly to the ILEC in terms of the likelihood of being interdicted and penalized by the regulators, the resource costs of avoiding detection, and the possible efficiency losses in the ILEC's own operation caused by foreclosing rivals. Absent a merger, ILEC 1 will choose to set rivals' access cost at the level at which its profits are maximized (point C* in the diagram).

76. The middle panel shows the spillover profits achieved by ILEC 2 when ILEC 1 increases the terminating access costs (or degrades the access quality) of carriers that compete with ILEC 2. ILEC 2's profits rise from the increase in its rivals' access costs because ILEC 2 becomes more attractive to consumers relative to its disadvantaged rivals and because ILEC 2 does not share in the costs of exclusion carried out by ILEC 1.[61] Before the merger, ILEC 1 would ignore these anticompetitive benefits to ILEC 2.

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[61] This figure reflects the fact that state regulators in one state are unlikely to bring sanctions against SBC for exclusionary conduct towards CLECs or CSCs in another state.

However, after the merger, ILEC 1 would take the profit spillover to ILEC 2 into account in deciding the level of costs to inflict on competitors. The bottom panel shows the combined profits of ILEC 1 and ILEC 2 as a function of the discriminatory treatment of competitors in Region 1. Joint profits reach a maximum at a higher cost level (C** in the diagram) than before the merger. This is because the benefits to ILEC 2 are taken into account by the merged entity, whereas they were not before the merger.

77. The merger will increase SBC and Ameritech's incentives and ability to exclude rivals. If rivals require the inputs from multiple ILECs in order to compete effectively, then the merger of two ILECs increases the incentives to foreclose access to interconnection and access inputs, by allowing each ILEC to "internalize" the benefit it gives to the other ILEC by foreclosing access. This overcomes a coordination problem that two independent ILECs would otherwise have.

78. This graphical analysis illustrates how a merger between two ILECs increases the incentives of each ILEC to pursue an exclusionary access policy. Thus, we would expect that a merger would lead the ILECs to attempt a greater degree of exclusion than they each would attempt independently before the merger. Coupled with the fact that their ability to exclude also increases, the conclusion is clear: A merger between SBC and Ameritech would increase the magnitude of the exclusionary access problem and thereby harm consumers and competition.

D. Quantifying the Impact of the Merger on SBC and Ameritech's Incentives to Exclude

79. In this part we analyze the magnitude of these anticompetitive spillovers. The effect of the merger on internalizing these spillovers can be gauged by extending the analysis of the *relative-margin* and *price-increase incentives* discussed earlier. We illustrate the methodology by extending the *relative-margin incentive*. This incentive is based on the assumption that an ILEC benefiting from exclusionary conduct reacts to the weakening of competition by holding its retail service prices constant and increasing its retail output levels.

80. Suppose that ILEC 1 is choosing its level of exclusionary behavior before the merger. ILEC 1 balances the value of these increased retail sales against the foregone profits from lost sales of access services to other carriers. Recall from our earlier analysis that ILEC 1 earns expected net benefits from exclusionary behavior d equal to

$$\Delta Q^r(d) \times m^r - \Delta Q^a(d) \times m^a - S(d) . \qquad \text{(eqn. 5)}$$

81. Now consider ILEC 2, which is affected by competitive spillovers from ILEC 1's exclusionary behavior. Suppose that these spillovers permit ILEC 2 to increase its retail output by $\sigma \times \Delta Q^r(d)$ units. Suppose also that ILEC 2's sales of access services to other carriers fall by $\sigma \times \Delta Q^a(d)$ as the result of the exclusionary behavior by ILEC 1. In this case, the change in ILEC 2's profits is

$$\sigma \times \{ \Delta Q^r(d) \times m^r - \Delta Q^a(d) \times m^a \} . \qquad \text{(eqn. 6)}$$

82. In choosing how much exclusionary conduct to undertake in ILEC 1's region, the

merged entity would aggregate the effects in both Equations (5) and (6). Assuming that the retail and access margins are identical in both geographic markets, the total gain would be

$$(1-\sigma) \times \{ \Delta Q^r(d) \times m^r - \Delta Q^a(d) \times m^a \} - S(d) \quad .^{62} \qquad \text{(eqn. 7)}$$

The merged entity's gross incentives to engage in exclusionary conduct—which are balanced against the threat of regulatory sanctions—are 100σ percent larger than those of the independent ILEC 1 before the merger. A similar analysis can be carried out with respect to the incentives to engage in exclusionary conduct in ILEC 2's region.

83. The magnitude of the spillover parameter σ depends on the target and the type of exclusionary access conduct undertaken by the ILECs. With respect to CLEC entry, exclusionary conduct by one ILEC can benefit the other ILECs in a number of ways. For example, because of shared development, roll-out, and upgrade costs and because of other economies of scope, exclusionary conduct that deters entry and expansion in one region can lead to a comparable degree of deterrence in the other region by reducing the overall profitability of a CLEC's multi-market entry or expansion strategy, with the result that the CLEC is either slowed or deterred from entering the other region. This type of deterrence could suggest a spillover rate of around unity for each of the merging ILECs, if

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62 A similar incremental net benefit can be derived with respect to the increased-price incentives. In principle, it is also possible to mix the incentives. The benefit to the one ILEC could involve increased output whereas the benefits to the other ILEC could involve

the expected sales of the CLEC entrants were the same in both regions and the exclusion deterred entry or expansion in both regions.[63] In this case, the merger would double the gross incentive to exclude rivals.

84. More extreme values of σ also could arise from this type of entry deterrence. For example, suppose that exclusionary conduct in one region reduces the number of CLEC subscribers in that region by a small amount and that there are shared development costs that must be recovered from product sales in both regions. On the one hand, this could lead to no deterrence effects in the other region at all, if the economics of entry in the other region remain profitable, in which case σ would equal zero. On the other hand, a small reduction in the number of subscribers in the first region could tip the profitability of entry in the other region to be negative and thus deter entry altogether in that second region. In that case, σ would be very large.

85. Similar considerations arise when the targets of the exclusionary conduct are CSCs. In the case of CSCs, there also is an interexchange component, which creates another mechanism for spillovers. Moreover, when on-net features do not extend to off-net communications at equal cost, exclusionary tactics in one region can weaken a CSC's ability to sell its suite of combined services in other regions by raising the CSC's costs

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higher prices.

63 If the CLECs would get more customers in the second ILEC's region absent the exclusion, say because that region is larger, then the σ would exceed unity. If the second

and/or reducing customers' perceived quality of its service suite. These effects would tend to increase the value of σ.

86. Exclusionary conduct directed at plain vanilla IXCs also can have a spillover effect. As discussed earlier, exclusionary conduct by SBC against IXCs in its region will raise their costs. This will disadvantage those IXCs in competing against Ameritech for interexchange customers in its region. In this case, σ would depend on the fraction of the interexchange traffic of Ameritech's rivals that flows from Ameritech's region to SBCs.[64]

VI. THE SBC-AMERITECH MERGER WILL WEAKEN REGULATORS' ABILITY TO LIMIT EXCLUSIONARY CONDUCT BY OTHER ILECS

87. The proposed merger's impact on SBC and Ameritech's incentives to engage in exclusionary behavior can have harmful effects on competition and consumer welfare that go beyond the combined region of the two merging carriers. These broader effects can arise because the Commission and state regulators may rely on inter-firm comparisons to limit the exercise of ILEC market power in the provision of access. The proposed merger would weaken the ability of regulators to use benchmarking to ensure appropriate access arrangements. 87. As already discussed, the proposed merger would eliminate

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region were smaller, then the σ would be less than unity.

[64] It is our understanding that 16.8 percent of all Sprint interexchange minutes that originate in Ameritech's region terminate in SBC's region.

Ameritech as a benchmark for SBC and vice versa. By reducing the number of benchmarks, the efficacy of the benchmarking process is reduced. This loss of benchmarks will be exacerbated if the Bell Atlantic/Nynex acquisition of GTE is permitted to proceed. Indeed, if there are few enough major ILECs remaining, they may have the incentives and ability to reach a tacit understanding to reduce their cooperation with rival carriers, so that no ILEC serves as a useful competitive benchmark.

88. The fact that the merger enhances SBC and Ameritech's joint incentives to carry out exclusionary access policies creates an additional benchmarking problem.[65] Suppose that the Commission were to approve the merger and then relied on SBC's conduct as a benchmark against which to grade other ILECs' access policies. Because, as discussed above, the merger would increase SBC's unilateral incentive to discriminate against rivals, the merged entity can be expected to offer less competitive access arrangements. After the merger, SBC and Ameritech's conduct will not reflect best practice, but rather the outcome of a more discriminating ILEC than before the merger. Hence, this conduct will become a less useful basis of comparison in assessing the competitiveness of other ILECs' access conduct. That is, if the other ILECs follow the same practices as SBC, that conduct does not imply that they are acting competitively, since SBC has an

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[65] A variety of benchmarking issues are discussed in detail in the Declaration of Joseph Farrell and Bridger M. Mitchell, "Benchmarking and the Effects of ILEC Mergers," October 14, 1998. Our focus here is on how the proposed merger would reduce the value of benchmarks based on the post-merger conduct of SBC and Ameritech.

enhanced incentive to exclude. The best benchmark is a firm with no incentives to exclude, not the opposite.

89. By reducing the value of SBC and Ameritech as competitive benchmarks, the overall anticompetitive effects of the merger will be enhanced beyond the SBC-Ameritech regions. Not only will SBC and Ameritech increase their magnitude of exclusionary conduct, the loss of the benchmarks also will permit other ILECs such as Bell Atlantic/Nynex to increase the magnitude of their exclusionary conduct as well.[66, 67]

VII. CONCLUSION

90. One response to the increased threat of discrimination and foreclosure from the proposed merger might be to increase regulatory oversight. However, regulatory authorities are unable to prevent this discrimination and foreclosure very effectively. First, as discussed earlier, regulation is imperfect at detecting and correcting such conduct, particularly for new and innovative forms of access. Second, the potential for continued consolidation of the large ILECs will further reduce regulators' ability to

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[66] When Bell Atlantic/Nynex chooses the magnitude of its profit-maximizing exclusionary conduct, it will have the incentive to take into account the likelihood that it is sanctioned by regulators. That likelihood is reduced if SBC and Ameritech merge since its post-merger incentives to exclude are increased. Thus, Bell Atlantic/Nynex will have an increased incentive to exclude because the SBC/Ameritech merger decreases Bell Atlantic/Nynex's risk of a sanction.

[67] Of course, this effect flows both ways. If the proposed merger of Bell Atlantic and GTE is permitted to proceed, the adverse effects of SBC's proposed merger with Ameritech will be magnified by the loss of Bell Atlantic and GTE as independent benchmarks for

exercise effective oversight. For example, if their merger is approved, Bell Atlantic and GTE also would be lost as independent benchmarks for SBC and Ameritech. Third, because a merged firm becomes a poor competitive benchmark, the anticompetitive effects of each merger extend beyond its region into other regions.

91. If it is allowed to proceed, the proposed merger of SBC and Ameritech will increase the incidence of exclusionary conduct and regulation will be unable to prevent it. The result will be to hinder the development of local competition and to slow the introduction of innovative new services for both local and long distance. For these reasons, the proposed merger of SBC and Ameritech poses a threat to the public interest.

VIII. APPENDIX

92. In this appendix, we provide details of the calculations underlying the access market and retail market margins presented in the text of Part IV.B.3.[68]

A. The Access Margin[69]

93. Given the CSC's business model described in the text, the (operating) margin per customer earned by the ILEC in the access market is the price of an unbundled loop less

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SBC and others.

[68] In the footnotes, we relate our assumptions to rough estimates of the corresponding figures for actual carriers. These estimates are intended solely to demonstrate that the figures in the hypothetical example are plausible.

[69] As discussed in the text, we find it clearer to explain the exclusion scenario by including the profits from terminating access in the retail margin. This choice of labeling does not

its cost. We assume that the price is $14.50,[70] and the long-run incremental cost is $12.00.[71] Thus, in its capacity as a wholesaler of loops, our hypothetical ILEC stands to lose $2.50 per month in the long run when the CSC purchases one fewer unbundled loop from the ILEC. In the light of the fact that loop costs are largely sunk in the short run, short-run marginal costs are close to zero, and the short-run access margin is close to the wholesale price of $14.50. The charge for collocation in a given central office is assumed to be insensitive to the number of customers and their usage levels, and thus it is not affected by ILEC exclusionary actions that slow the growth of the CSC but do not fully deter it.

B. The Retail Margin

94. Current prices of the individual elements of combined service sold to a single-line business customer include: the monthly fee for local service and usage charges for local

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affect our conclusions.

70 Taking a weighted average of the default proxy ceilings set by the FCC in its Local Competition Order, (*In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, *First Report and Order*, released August 8, 1996, Appendix D) with the number of single-line business lines taken from Hatfield Model version 5.0a (*The Hatfield Model*, Hatfield Associates Inc., Boulder, Colorado, January 27, 1998) used as the weighting factor, one obtains an estimated wholesale price of unbundled loops of $14.22.

71 This is the estimated cost of an unbundled loop obtained by taking a weighted average of the Hatfield Model estimates for 49 states, using single-line businesses as the weighting factor.

calls (assumed to be $32.00[72]); the Subscriber Line Charge (assumed to be $3.50[73]); usage charges for long distance calls (assumed to average $46.50 per month[74]), and terminating access on long distance calls originating out of region (assumed to be $7.50[75]). Summing

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72 In 1996, the national average monthly rate for a single line business for local service, including the cost of 200 messages per month if flat rates were not available, was $32.54 (Federal Communications Commission, *Statistics of Common Carriers, 1996,* (*SOCC*) at Table 8.5).

73 In 1996, the average single-line business Subscriber Line Charge was $3.56. (*SOCC* at Table 8.5).

74 This hypothetical figure can be compared with actual data. InterLATA and intraLATA revenues are separately estimated as follows. (1) InterLATA Revenues. Total (interstate plus intrastate) InterLATA originating and terminating billed access minutes are obtained from Table 2-6, 1996 *SOCC*, and divided by 2 to obtain long distance minutes. The number of business, public payphone, and residential lines was obtained from Table 2-5, 1996 *SOCC*. The long distance minutes were apportioned to business and residential customers so that the average business line (defined to include single-line and multiline businesses and public payphones) had twice as many interLATA minutes per line per month as the average residential line. (Bridger Mitchell, *Incremental Costs of Telephone Access and Local Use*, Rand Report R-3909-ICTF, RAND Corporation, Santa Monica, at 53, cites evidence that business long distance use per line is twice residential use.) Finally, the monthly minutes of use per business line was multiplied by $0.116, the average revenue per minute for direct dialed interstate calls (*Trends in Telephone Service*, Federal Communications Commission, Released January, 1998, Table 14.3) to obtain interLATA revenue per line of $28.15. (2) IntraLATA Revenues. Mitchell's study (*op cit*) of California customers contained data on intraLATA revenues per line for business and residential customers. His data showed that single-line business customers had average intraLATA toll bills of $18.50, for 103 minutes of use, and an average revenue per minute of $0.18.

75 The number of actual interstate toll minutes originating outside SBC's region were obtained from the Hatfield Model 5.0a and multiplied by the fraction of SBC's terminating minutes that originate outside SBC's region (Source: Sprint proprietary data). These minutes are then apportioned to single business lines, assuming as before that businesses have twice the usage per line as residential users do. The number of business and residential lines is obtained from the Hatfield Model. The revenue is obtained by multiplying these business minutes by an access charge of $0.03 per minute. (*1997 Monitoring Report*, Federal-State Joint Board, Table 5-12, access charge per conversation minute divided by 2). This procedure yields an estimate of $7.34 per month per line.

these revenue components, the hypothetical ILEC earns an average of $89.50 per month per customer purchasing its local and long distance services.[76]

95. To compute the retail margin, we subtract costs from revenues. The ILEC's costs of providing combined service include: the network cost per line of local service, local calling, and access to long distance POPs (assumed to be $16.50[77]), the cost of customer service (assumed to be $8.00 per line[78]), the cost of long distance calls (assumed to be $7.00[79]) and the cost of terminating calls from the ILEC's long distance subscribers to subscribers served by other interexchange access providers (assumed to be $6.00[80]). The

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[76] This number is likely to understate the actual average revenues that an ILEC would earn because it ignores revenues from vertical services.

[77] This figure can be compared with the long-run incremental cost of local exchange and exchange access service reported in the default runs of the Hatfield Model. The model reports the cost per line of the unbundled network elements required to provide local exchange and exchange access service for the 50 states. The (single-business line) weighted average of this cost across 49 states and Washington D.C. is $16.34 per line, per month. The computed costs included the cost of a network connection, local usage and access to an IXC's POP.

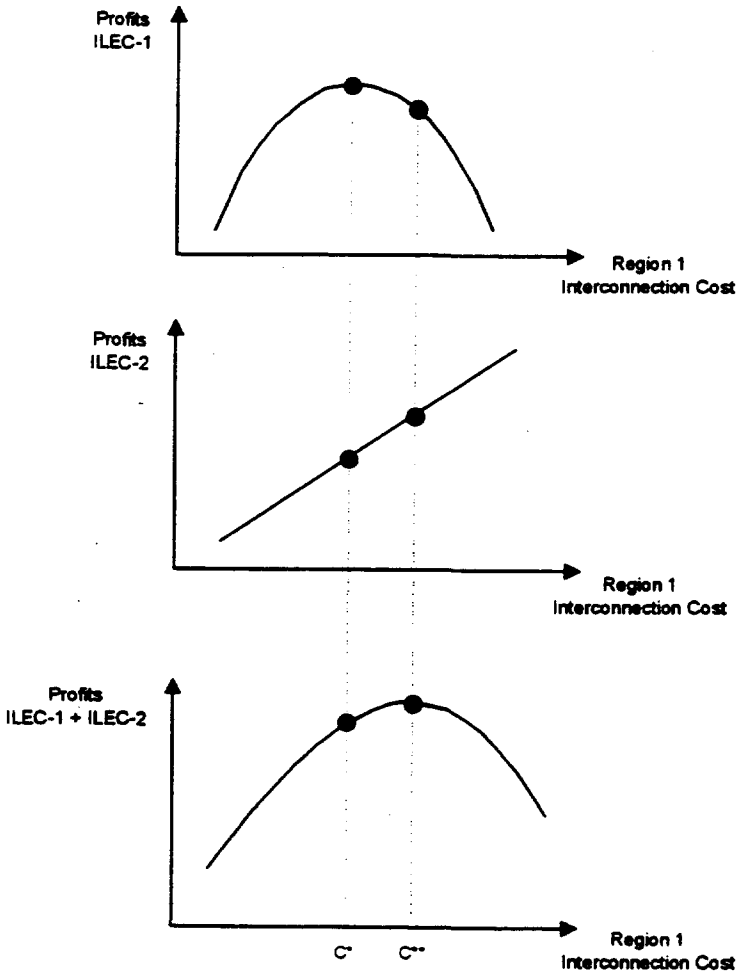
[78] The Commission estimated that the avoided costs of an ILEC that loses a customer to a reseller of local service is 17-25 percent of the retail price. (*Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, CC Docket Number 96-98, rel. August 6, 1998, at ¶933). Applying these percentages to the average retail price of local service, we obtain customer care costs of $5.53 to $8.14 per line per month.

[79] The average cost of long-distance service for an actual ILEC can be estimated by multiplying total long distance minutes used to calculate long distance revenue by $0.02 per minute (*i.e.*, 350 minutes x $0.02 = $7.00). The unit cost was obtained from Robert Crandall and Leonard Waverman, *Talk is Cheap*, Brookings, 1996, at 92.

[80] ILECs' actual average costs of purchasing terminating access from other networks can be estimated using a process similar to that used to compute ILEC's terminating revenue above. The resulting figure is $5.89 per line per month.

total costs of providing local and long-distance services combined service in our hypothetical example is thus $37.50 per month, per single line business subscriber. The resulting retail margin is $52.00 = $89.50 – $37.50.

FIGURE 1: EFFECT OF MERGER ON INCENTIVES



IX. EXHIBIT 1: CURRICULUM VITAE OF MICHAEL L. KATZ

ADDRESS

The Tilden Group, LLC
5335 College Avenue
Oakland, CA 94618

EMPLOYMENT

July 1987 to present **Arnold Professor of Business Administration**
Director, Center for Telecommunications and Digital Convergence
University of California at Berkeley

Joint appointment in the Economics Department and School of Business. Initial appointment as an associate professor July 1987. Promoted to full professor July 1989. Granted an endowed chair July 1995. Research on competitive strategy in systems markets, strategic standard setting, vertical integration, strategic alliances, and cooperative research and development. Chaired Strategic Planning Committee, Policy and Planning Committee, and the Economic Analysis and Policy Group. Teach MBA courses in business strategy and microeconomics, and doctoral courses in accounting and microeconomics. Author of economics textbook.

January 1994 to January 1996 **Chief Economist**
Federal Communications Commission

Responsible for integrating economic analysis into all aspects of Commission policy making. Reported directly to the Chairman of the Commission. Formulated and implemented regulatory policies for all industries under Commission jurisdiction, including cable and broadcast television, and local, long distance, and wireless telephony. Managed teams of lawyers and economists to design regulatory policies and procedures. Significantly strengthened Commission's ability to gather industry data and conduct empirical studies. Extensive public speaking to specialist and general audiences in the United States and abroad.

July 1981 to June 1987 **Assistant Professor of Economics**
Princeton University

Research on sophisticated pricing, standards development, cooperative R&D, and intellectual property licensing. Served as Assistant Director of Graduate Studies. Taught courses in microeconomics, industrial organization, and antitrust and regulation to undergraduate and doctoral students.

EDUCATION

D.Phil. 1982
Oxford University

Doctorate in Economics. Thesis on market segmentation and sophisticated pricing strategies.

A.B. *summa cum laude* 1978
Harvard University

As an undergraduate, completed all courses and general examinations for doctorate in economics.

AWARDS AND HONORS

Chairman's Special Achievement Award, Federal Communications Commission, 1996.

The Earl F. Cheit Outstanding Teaching Award, Berkeley, 1992-1993 and 1988-1989. Honorable Mention, 1996-1997.

Alfred P. Sloan Research Fellow, 1985-1988.

National Science Foundation Graduate Fellow, 1978-1981.

John H. Williams Prize (awarded to the Harvard College student graduating in Economics with the best overall record), 1978.

National Merit Scholar, 1975-1976.

GRANTS

Berkeley Committee on Research Grant, 1996-1997.

Berkeley Program in Finance Research Grant, 1990.

Researcher, Pew Foundation grant: "Integrating Economics and National Security," 1987-1990.

Principal Investigator, National Science Foundation grants:

"A More Complete View of Incomplete Contracts," joint with Benjamin E. Hermalin, 1991-1993.

"Game-Playing Agents and the Use of Contracts as Precommitments," 1988-1989.

"The Analysis of Intermediate Goods Markets: Self-Supply and Demand Interdependence," 1985-1986.

"Imperfectly Competitive Models of Screening and Product Compatibility," 1983-1984.

"Screening and Imperfect Competition Among Multiproduct Firms," 1982.

PROFESSIONAL ACTIVITY

Coeditor of *Journal of Economics and Management Strategy*.

PUBLICATIONS

"Multiplant Monopoly in a Spatial Market," *Bell Journal of Economics* Vol. 11, No. 2 (Autumn 1980).

"Non-uniform Pricing, Output and Welfare Under Monopoly," *Review of Economic Studies* Vol. L, No. 160 (January 1983).

"A General Analysis of the Averch-Johnson Effect," *Economic Letters* Vol. 11, No. 3 (1983).

"The Socialization of Commodities," co-authored with L.S. Wilson, *Journal of Public Economics* Vol. 20, No. 3 (April 1983).

"The Case for Freeing AT&T," co-authored with Robert D. Willig, *Regulation* (July/August 1983) and "Reply to Tobin and Wohlstetter," *Regulation* (November/December 1983).

"Plea Bargaining and Social Welfare," co-authored with Gene M. Grossman, *American Economic Review* Vol. 73, No. 4 (September 1983).

"Firm-Specific Differentiation and Competition Among Multiproduct Firms," *Journal of Business* Vol. 57, No. 1, Part 2 (January 1984).

"Nonuniform Pricing with Unobservable Numbers of Purchases," *Review of Economic Studies* Vol. LI (July 1984).

"Price Discrimination and Monopolistic Competition," *Econometrica* Vol. 52, No. 6 (November 1984).

"Tax Analysis in an Oligopoly Model," co-authored with Harvey S. Rosen, *Public Finance Quarterly* Vol. 13, No. 1 (January 1985).

"Network Externalities, Competition, and Compatibility," co-authored with Carl Shapiro, *American Economic Review* Vol. 75, No. 3 (June 1985).

"On the Licensing of Innovations," co-authored with Carl Shapiro, *Rand Journal of Economics* Vol. 16, No. 4 (Winter 1985).

"Consumer Shopping Behavior in the Retail Coffee Market," co-authored with Carl Shapiro, in *Empirical Approaches to Consumer Protection* (1986).

"Technology Adoption in the Presence of Network Externalities," co-authored with Carl Shapiro, *Journal of Political Economy* Vol. 94, No. 4 (August 1986).

"How to License Intangible Property," co-authored with Carl Shapiro, *Quarterly Journal of Economics* Vol. CI (August 1986).

"An Analysis of Cooperative Research and Development," *Rand Journal of Economics* Vol. 17. No. 4 (Winter 1986).

"Product Compatibility Choice in a Market with Technological Progress," co-authored with Carl Shapiro, *Oxford Economic Papers: Special Issue on Industrial Organization* (November 1986).

"The Welfare Effects of Third-Degree Price Discrimination in Intermediate Goods Markets," *American Economic Review* Vol. 77, No. 2 (March 1987).

"R&D Rivalry with Licensing or Imitation," co-authored with Carl Shapiro, *American Economic Review* Vol. 77, No. 3 (June 1987).

"Pricing Publicly Provided Goods and Services," in *The Theory of Taxation for Developing Countries*, D.M. Newbery and N.H. Stern (eds.), Washington, D.C.: World Bank (1987).

"Vertical Contractual Relationships," in *The Handbook of Industrial Organization*, R. Schmalensee and R.D. Willig (eds.), Amsterdam: North Holland Publishing (1989).

"R&D Cooperation and Competition," co-authored with Janusz A. Ordover, *Brookings Papers on Economic Activity: Microeconomics* (1990).

Intermediate Microeconomics, co-authored with Harvey S. Rosen, Burr Ridge, IL: Richard D. Irwin (1st ed. 1991, 2nd ed. 1994, 3rd ed. 1997).

"Game-Playing Agents: Unobservable Contracts as Precommitments," *Rand Journal of Economics* Vol. 22, No. 3 (Autumn 1991).

"Moral Hazard and Verifiability: The Effects of Renegotiation in Agency," co-authored with Benjamin E. Hermalin, *Econometrica* Vol. 59, No. 6 (November 1991).

"Product Introduction with Network Externalities," co-authored with Carl Shapiro, *Journal of Industrial Economics* Vol. XL, No. 1 (March 1992).

"Defense Procurement with Unverifiable Performance," co-authored with Benjamin E. Hermalin, in *Incentives in Procurement Contracting*, J. Leitzel and J. Tirole (eds.), Boulder, Colorado: Westview Press (1993).

"Judicial Modification of Contracts Between Sophisticated Parties: A More Complete View of Incomplete Contracts and Their Breach," co-authored with Benjamin E. Hermalin, *Journal of Law, Economics, & Organization* Vol. 9, No. 2 (1993).

"Systems Competition and Network Effects," co-authored with Carl Shapiro, *Journal of Economic Perspectives* Vol. 8, No. 2 (Spring 1994).

"Joint Ventures as a Means of Assembling Complementary Inputs," *Group Decision and Negotiation* Vol. 4, No. 5 (September 1995). Also printed in *International Joint Ventures: Economic and Organizational Perspectives*.

"Interconnecting Interoperable Systems: The Regulator's Perspective," co-authored with Gregory Rosston and Jeffrey Anspacher, *Information, Infrastructure and Policy*, Vol. 4, No. 4 (1995).

"Interview with an Umpire," in *The Emerging World of Wireless Communications*, Annual Review of the Institute for Information Studies (1996).

"An Analysis of Out-of-Wedlock Childbearing in the United States," co-authored with George Akerlof and Janet Yellen, *Quarterly Journal of Economics*, Vol. 111, No. 2 (May 1996).

"Remarks on the Economic Implications of Convergence" *Industrial and Corporate Change*, Vol. 5, No. 4 (1996).

"Regulation to Promote Competition: A first look at the FCC's implementation of the local competition provisions of the telecommunications act of 1996," co-authored with Gerald W. Brock, *Information Economics and Policy*, Vol. 9, No. 2 (1997).

"Ongoing Reform of U.S. Telecommunications Policy," *European Economic Review*, Vol. 41 (1997).

"Economic Efficiency, Public Policy, and the Pricing of Network Interconnection Under the Telecommunications Act of 1996," in *Interconnection and the Internet: Selected Papers from the 1996 Telecommunications Policy Research Conference*, G. Rosston and D. Waterman (eds.), Mawah, New Jersey: Lawrence Erlbaum Associates, Publishers (1997).

"Introduction: Convergence, Competition, and Regulation," co-authored with Glenn A. Woroch, *Industrial and Corporate Change*, Vol. 6, No. 4 (1997).

"Public Policy and Private Investment in Advanced Telecommunications Infrastructure," co-authored with Joseph Farrell, *IEEE Communications Magazine* (July 1998).

"Antitrust in Software Markets," co-authored with Carl Shapiro, Progress & Freedom Foundation conference volume (forthcoming).

"The Effects of Antitrust and Intellectual Property Law on Compatibility and Innovation," co-authored with Joseph Farrell, *The Antitrust Bulletin* (forthcoming).

X. EXHIBIT 2: CURRICULUM VITAE OF STEVEN C. SALOP

ADDRESS Georgetown University Law Center
600 New Jersey Ave., N.W.
Washington, D.C. 20001
Telephone: (202) 662-9095

PERSONAL Born, December 23, 1946; Married, three children; U.S. Citizen

FIELDS OF SPECIALIZATION

Industrial Organization, Competition and Antitrust Policy, Economics of Information, Law and Economics.

DEGREES

Ph.D.	Economics, Yale University, 1972
M. Phil.	Economics, Yale University, 1972
B.A.	University of Pennsylvania, 1968

AWARDS Summa Cum Laude, with Honors in Economics, University of Pennsylvania, 1968; Schoenbaum Prize in Economics, University of Pennsylvania, 1968; NSF Graduate Fellowship, 1968-72; Phi Beta Kappa, 1968.

EMPLOYMENT EXPERIENCE

Professor of Economics and Law, Georgetown University Law Center, 1982 - Present.

Guest Scholar, Brookings Institution, 1990-1991.

Visiting Professor, Massachusetts Institute of Technology, Spring 1986.

Visiting Interdisciplinary Professor, Georgetown University Law Center, July 1981-June 1982.

Associate Director for Special Projects, Bureau of Economics, Federal Trade Commission, January 1980-June 1981.

Assistant Director for Industry Analysis, Bureau of Economics, Federal Trade Commission, September 1979-January 1980.

Deputy Assistant Director for Consumer Protection, Bureau of Economics, Federal Trade Commission, December 1978-September 1979.

Economist, Division of Consumer Protection, Bureau of Economics, Federal Trade Commission. July 1978-December 1978.

Economist, Office of Economic Analysis, Civil Aeronautics Board, September 1977-July 1978.

Economist, Federal Reserve Board, July 1972-September 1977.

Adjunct Professor, Department of Economics, University of Pennsylvania, September 1977-June 1978.

Adjunct Professor, Department of Economics, George Washington University, September 1975-January 1978.

PROFESSIONAL ACTIVITIES

Advisory Committee, FTC Hearings on Global and Innovation-Based Competition (1996).

Associate Editor (Industrial Organization), *Journal of Economic Perspectives* (1987-1993).

ABA Antitrust Task Force on Second Requests (1990).

Advisory Board, Georgetown Project on Treble Damages (1986-1987).

Associate Editor, *Journal of Industrial Economics* (1983-1988).

Associate Editor, *International Journal of Industrial Organization* (1984-1989).

Secretary, Antitrust Section, American Association of Law Schools (1983-1984).

Memberships: American Economic Association, American Bar Association, Phi Beta Kappa.

Nominating Committee: American Economic Association, 1982.

Economics Editorial Advisor, *Journal of Consumer Research*, 1982.

OTHER ACTIVITIES

Board of Directors, Charles River Associates Incorporated.

Management Advisory Committee, La Leche League International.

Board of Trustees, The Lowell School (1989-1995).

HONORS AND AWARDS

NSF Graduate Fellowship, 1968-1972.

Graduated Summa cum Laude, with Honors in Economics, from the University of Pennsylvania, 1968.

Schoenbaum Prize in Economics, University of Pennsylvania, 1968.

Phi Beta Kappa, 1968.

PUBLICATIONS

Books

Strategy, Predation and Antitrust Analysis. Editor. Federal Trade Commission, 1981.

Consumer Post-Purchase Remedies. With H. Beales et al. Federal Trade Commission Staff Report,

1980.

Consumer Information Remedies. With L. Kantor et al. Federal Trade Commission Staff Report, 1979.

Articles

"Decision Theory and Antitrust Rules," With C.F. Beckner III. *Antitrust Law Journal* (Forthcoming)

"You Keep On Knocking But You Can't Come In: Evaluating Restrictions on Access Rules to Input Joint Ventures." With D. Carlton. *Harvard Journal of Law and Technology* (1996)

"Evaluating Vertical Mergers: A Post-Chicago Approach." With M. Riordan. *Antitrust Law Journal* (1995).

"Exclusionary Vertical Restraints: Has Economics Mattered?" *American Economic Review* (May 1992).

"An Economic Analysis of Copyright Collectives." With S. Besen and S. Kirby. *Virginia Law Review* (1991).

"Competition Among Complements, and Intra-Network Competition." With N. Economides. *Journal of Industrial Economics* (1992).

"Rowing Against the Tidewater: A Theory of Voting by Multi-Judge Panels." With D. Post. *Georgetown University of Law Review* (1992).

"Evaluating Network Pricing Self-Regulation." In *Electronic Services Networks: A Business and Public Policy Challenge of Electronic Shared Networks*, edited by Guerin-Calvert and Wildman, (1991).

"Equilibrium Vertical Foreclosure." With J. Ordover and G. Saloner. *American Economic Review* (1990).

"Deregulating Self-Regulated Shared ATM Networks." *Economics of Innovation and New Technology* (1990).

"Monopoly Power and Market Power in Antitrust Law." With T. Krattenmaker and R. Lande. *Georgetown University Law Review* (1987).

"Analyzing Anticompetitive Exclusion." With T. Krattenmaker. *Antitrust Law Journal* (1987).

"Cost-Raising Strategies." With D. Scheffman. *Journal of Industrial Economics* (1987).

"Information, Welfare and Product Diversity." With J. Stiglitz. In *Arrow and the Foundations of the Theory of Economic Policy*, edited by Feiwel et al., (1987).

"Antitrust Analysis of Exclusionary Rights: Raising Rivals' Costs to Gain Power Over Price." With T. Krattenmaker. *Yale Law Journal* (December 1986).

"Competition and Cooperation in the Market for Exclusionary Rights." With T. Krattenmaker. *American Economic Review* (May 1986).

"Private Antitrust Litigation: Introduction and Framework." With L. White. *Georgetown University Law Review* (1986).

"Economics of Private Antitrust Litigation." With L. White. *Antitrust Law Journal* (1986). Reprinted

by the Senate Judiciary Committee.

"Quantifying the Competitive Effects of Production Joint Ventures." With T. Bresnahan. *International Journal of Industrial Organization* (1986).

"Measuring Ease of Entry." *Antitrust Bulletin* (1986).

"Firm-Specific Information, Product Differentiation and Industry Equilibrium." With J. Perloff. In *Strategic Behavior and Industrial Competition*, edited by Morris et al., (1986).

"Practices that (Credibly) Facilitate Oligopoly Coordination." In *New Developments in the Analysis of Market Structure*, edited by Stiglitz et al., (1986).

"Equilibrium with Product Differentiation." With J. Perloff. *Review of Economic Studies* (January 1985).

"A Practical Guide to Merger Analysis." With J. Simons. *Antitrust Bulletin* (Winter 1984).

"A Bidding Model of Special Interest Regulation: Raising Rivals' Costs in a Rent-Seeking Society." With D. Scheffman and W. Schwartz. In *The Political Economy of Regulation: Private Interests in the Regulatory Process*, (1984).

"Judo Economics: Capacity Limitations and Coupon Competition." With J. Gelman. *Bell Journal of Economics* (Autumn 1983).

"Raising Rivals' Cost." With D. Scheffman. *American Economic Review* (May 1983).

"Defects in Disneyland: Quality Control as a Two-Part Tariff." With A. Braverman and J.L. Guasch. *Review of Economic Studies* (January 1983).

"The Theory of Sales: A Simple Model of Equilibrium Price Dispersion with Identical Agents." With J. Stiglitz. *American Economic Review* (December 1982).

"A Framework for Evaluating Consumer Information Regulation." With H. Beales, M. Mazis, and R. Staelin. *Journal of Marketing* (Winter 1981).

"Efficient Regulation of Consumer Information." With H. Beales and R. Craswell. *Journal of Law and Economics* (December 1981).

"Consumer Search and Public Policy." With H. Beales, M. Mazis, and R. Staelin. *Journal of Consumer Research* (June 1981).

"Information Remedies for Consumer Protection." With H. Beales and R. Craswell. *American Economic Review*, Papers and Proceedings (May 1981).

"Introduction." In *Strategy, Predation and Antitrust Analysis*, edited by S.C. Salop. Federal Trade Commission, 1981.

"Strategic Entry Deterrence." *American Economic Review*, Papers and Proceedings (May 1979).

"Monopolistic Competition with Outside Goods." *Bell Journal* (Spring 1979).

"A Model of the Natural Rate of Unemployment." *American Economic Review* (March 1979).

"Alternative Reservations Contracts." Civil Aeronautics Board, 1978.

"Parables of Information Transmission in Markets." In *The Effect of Information on Consumer and*

Market Behavior, edited by Mitchell, (1978).

"The Noisy Monopolist; Information, Price Dispersion and Price Discrimination." *Review of Economic Studies* (October 1977).

"Bargains and Ripoffs: A Model of Monopolistically Competitive Price Dispersion." With J. Stiglitz. *Review of Economic Studies* (October 1977).

"Self-Selection and Turnover in the Labor Market." With J. Salop. *Quarterly Journal of Economics* (November 1976).

"Information and Monopolistic Competition." *American Economic Review*, Papers and Proceedings (May 1976).

"Wage Differentials in a Dynamic Theory of the Firm." *Journal of Economic Theory* (August 1973).

"Systematic Job Search and Unemployment." *Review of Economic Studies* (April 1973).

Reviews and Comments

"Efficiencies in Dynamic Merger Analysis." Testimony at FTC Hearings on Global and Innovation-Based Competition (November 1995). A slightly revised version has been published as "Efficiencies in Dynamic Merger Analysis: Summary." With G. Roberts. *World Competition* (June 1996).

"Exclusionary Access Rules in Standards and Network Joint Ventures." Testimony at FTC Hearings on Global and Innovation-Based Competition (December 1995).

"Evaluating Vertical Mergers: Reply to Reiffen and Vita Comment." With M. Riordan. *Antitrust Law Journal* (1995).

"More Value for the Legal Dollar: A New Look at Attorney-Client Fees and Relationships." With R. Litan. *Judicature* (1994).

"Kodak as Post-Chicago Law and Economics," *CRA Perspectives*, April 1993. Reprinted in Texas Bar Association, *Antitrust and Business Litigation Bulletin* (November 1993).

"Vertical Foreclosure Without Commitment: Reply to Reiffen." With J. Ordover and G. Saloner. *American Economic Review* (1992).

"Antitrust Goes to College." With L. White. *Journal of Economic Perspectives* (Summer 1991).

"Analysis of Entry in the New Merger Guidelines." Brookings Papers on Economic Activity (1991).

"Mergers and Antitrust." *Journal of Economic Perspectives* (1987).

"Comment on Golbe and White, 'Time Series Analysis of Mergers.'" In Auerbach et al., *Mergers and Acquisitions*, NBER.

"Policy Implications of Conference Papers." In Auerbach et al., *Mergers and Acquisitions*, NBER.

"Evaluating Uncertain Evidence with Sir Thomas Bayes." *Journal of Economic Perspectives* (Summer 1987).

"Implications of the Georgetown Project for Treble Damages Reform." Senate Judiciary Committee, March 21, 1986.

"Policing Deceptive Advertising." Serial No. 97-134, 97th Congress.

"Entry Barriers, Consumer Welfare and Antitrust Reform." In Bock et al., *Antitrust and New Views of Microeconomics*. Conference Board, 1986.

"Buy American, Save Your Job?" In J. Tobin et al., *Macroeconomics, Prices and Quantities*. Brookings Institution, 1983.

"Selling Consumer Information." With H. Beales. In J. Olson et al., *Advances in Consumer Research*, Vol. VII. 1980.

"Comment on R. Schmalensee, 'On the Use of Economic Models in Antitrust.'" In O. Williamson et al., *Antitrust Law and Economics*, .1980.

"Review of K. Lancaster, 'Variety, Equity and Efficiency,'" *Journal of Economic Literature*, 1980.